

KV-X2121D
RM-673

SERVICE MANUAL

AEP Model

Chassis No. SCC-B14S-A



AE-1 CHASSIS

Note: The service manual for RM-673 has been issued separately.

MODELS OF THE SAME SERIES

KV-X2121D	KV-X2521D
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KV-DX21TD	KV-DX27TD
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KV-X21TD	KV-X25TD
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SPECIFICATIONS

Television system	CCIR B, G and H	Power consumption	82 Wh
Color system	PAL, SECAM, NTSC3.58, NTSC4.43	Dimensions	Approx. 519 × 471 × 463 mm (w/h/d)
Stereo system	German two-carrier system	Weight	Approx. 26 kg
Channel coverage	VHF channels E2–E12 UHF channels E21–E69 Cable TV channels S1–S20 (A total of up to 30 preselected channels)	Supplied accessories	RM-673 Remote Commander (1) IEC designation R6 batteries (2)
Picture tube	Trinitron tube 100-degree deflection Approx. 54.5 cm (21 inches) (Approx. 51 cm picture measured diagonally)	Audio output	10 W + 10 W (music power)
Inputs	21-pin connector : CENELEC Standard 21-pin connector : RGB input unconnected	Design and specifications are subject to change without notice.	
Outputs	Headphones jack : stereo minijack External speaker terminals : 2-pin DIN Audio output jack : phonojack output level dependent upon TV setting		



MICROFILM

TRINITRON® COLOR TV
SONY®

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SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1 GENERAL

Note) The layout, etc., will be slightly different from the operating instructions packed with the units.

1-1. FIRST OF ALL

- 1 Connect the aerial to the Γ socket on the rear of the set. This socket receives the standard 75-ohm aerial plug.
- 2 Plug in the set.
- 3 Tune in the available channels.

Use the buttons inside the panel. To open the panel, push the center.

To tune in all channels automatically :

- 1 Press \Rightarrow (preset).
- 2 Press PROGR to select the program position from which tuning is to start.
- 3 Press \Rightarrow (auto programing).

The channels will be tuned in and memorized in consecutive positions, beginning from the program position selected in step 2.

When tuning has been completed, the set returns to the position where tuning began.

To tune in a channel in any desired program position. (e. g. the position which the same number as the channel) :

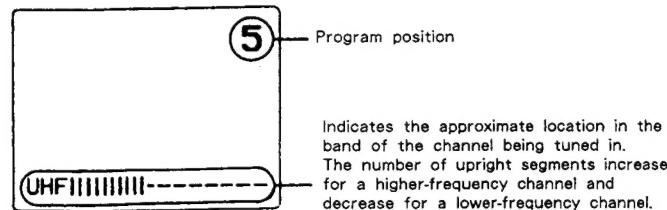
- 1 Press \Rightarrow (preset).
- 2 Press PROGR to select the desired program position.
- 3 Press C (clear).
- 4 Press \Rightarrow (search) repeatedly until the desired channel appears.
- 5 Repeat steps 2 to 4 for all channels, if required.
- 6 Press \Rightarrow (preset) again.

If the set is to be used in an area with poor reception, preset the program numbers between 1 and 19 for TV program use.

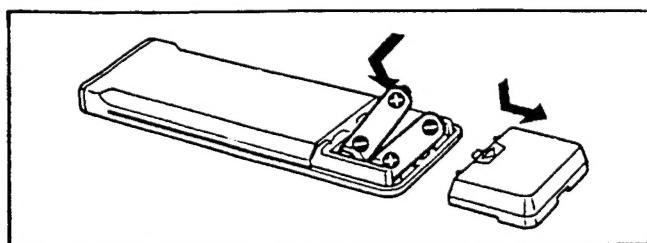
To have the unused program positions skipped when PROGR+ or PROGR- is pressed

- 1 Press \Rightarrow (preset).
- 2 Press PROGR to select the unused position.
- 3 Press C (clear).
- 4 Repeat steps 2 and 3 for all unused position.
- 5 Press \Rightarrow (preset) again.

On-screen display while tuning

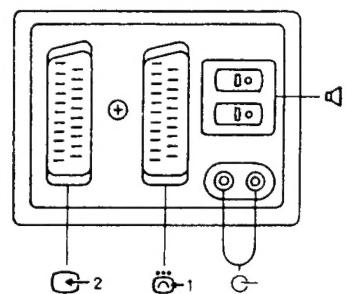


- 4 Insert two R6 batteries checking the correct polarity.



1-2. CONNECTING OTHER EQUIPMENT

Connectors on rear set



L/G/S	Left external speaker terminal (2-pin DIN)	Connect to external speakers. The TV speakers will be disconnected.
R/D/D	Right external speaker terminal (2-pin DIN)	speakers 8-16 Ω
R/D/D	Right audio output jack (phono jack)	Connect to audio equipment. When only using the phono-jacks, two loudspeaker plugs, (DIN 41529) should be inserted into the external speaker terminals so that the TV speaker output is switched off.
L/G/S	Left audio output jack (phono jack)	
G-1	21-pin connector (CENELEC standard)	Connect to a VTR, micro computer, etc. The picture of the TV channel being received is always output. The picture of G-2 can be watched while recording a TV program with the VTR connected to G-1.
G-2	21-pin connector (without RGB input)	Connect to second VTR. The picture displayed on the screen is always output. The picture of G-1 can be recorded with the VTR connected to G-2 while monitoring the picture.

VTR operation using the supplied Commander

Remote operation of the VTR is limited to the features and functions of the VTR. For further details, refer to the VTR manual.

When watching a video with the VTR connected to the Γ connector, set the channel for the video to the program number 0 or any empty channel between 20 and 29.

Note

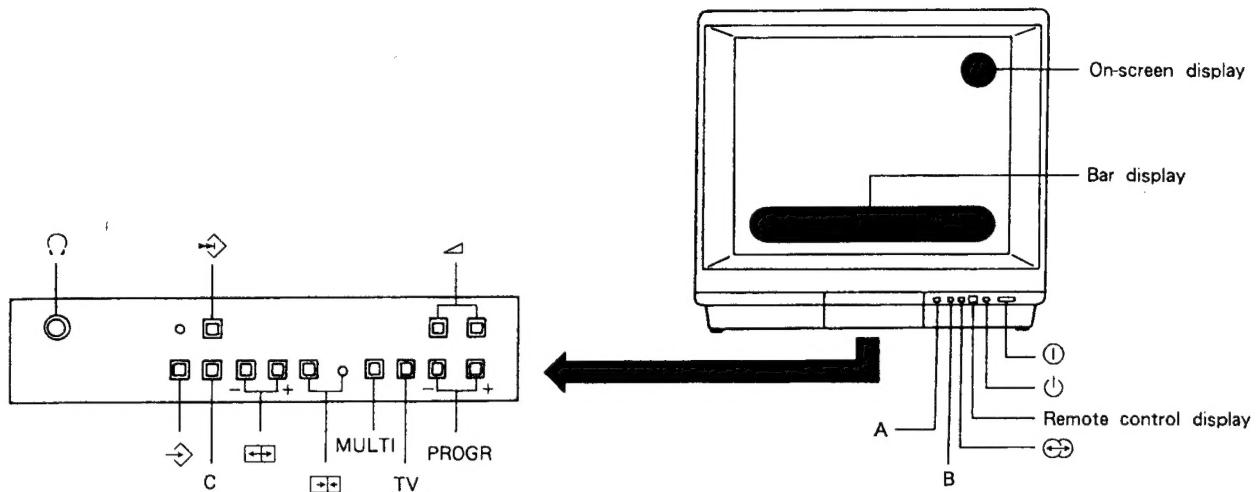
Move the VTR away from the TV, if the picture or sound is distorted.

21 pin connector (Pin 1, Pin 2)

Pin No	Pin 1	Pin 2	Signal	Signal level
1	○	○	Audio output B (right)	Standard level : 0.5 Vrms Output impedance : Less than 1 k ohm*
2	○	○	Audio input B (right)	Standard level : 0.5 Vrms Input impedance : More than 10 k ohms*
3	○	○	Audio output A (left)	Standard level : 0.5 Vrms Output impedance : Less than 1 k ohm*
4	○	○	Ground (audio)	
5	○	○	Ground (blue)	
6	○	○	Audio input A (left)	Standard level : 0.5 Vrms Input impedance : More than 10 k ohms*
7	○	●	Blue input	0.7 V ±2 dB, 75 ohms, positive
8	○	○	Function select (AV control)	High state (9.5–12 V) : Part mode Low state (0–2 V) : TV mode Input impedance : More than 10 k ohms Input capacitance : Less than 2 nF
9	○	○	Ground (green)	
10	○	○	Open	
11	○	●	Green/Green with sync input	Green signal : 0.7 V ±2 dB, 75 ohms, positive Green with sync signal : 1 V ±2 dB, 75 ohms, positive
12	○	○	Open	
13	○	○	Ground (red)	
14	○	○	Ground (blanking)	
15	○	●	Red input	(Same as Pin 7)
16	○	●	Blanking input (Y's signal)	High state (1–3 V) Low state (0–0.4 V) Input impedance : 75 ohms
17	○	○	Ground (video output)	
18	○	○	Ground (video input)	
19	○	○	Video output	1 V ±2 dB, 75 ohms, positive Sync : 0.3 V (-3, ±10 dB)
20	○	○	Video input	1 V ±2 dB, 75 ohms, positive Sync : 0.3 V (-3, ±10 dB)
21	○	○	Common ground (plug, shield)	

* at 20 Hz–20 kHz ○ connected ● unconnected (open)

1-3. FUNCTION OF CONTROLS



On the set

On-screen display

Indicates program numbers and \odot input modes.

Bar display

Indicates the level of \triangle volume, \odot color, \odot brightness, \odot contrast, \odot bass, \odot treble and \triangle balance.

Note on \triangle function.

When the volume is at the minimum setting the balance \triangle function will not operate.

① Power switch

To cut off the mains power completely, press this switch. Depress the power switch fully to ensure correct operation of the set.

Note

To ensure correct operation, push the switch in fully.

\odot standby indicator

Lights up brightly when the set is in the standby mode.

Note

If the main power is turned off when in standby mode, the standby indicator will take 2 to 6 seconds to go off.

\odot space sound indicator

Lights up when \odot on the Remote Commander is pressed.

A/B indicators

One of them lights during bilingual broadcast. (Choose A or B with the Remote Commander.)

Both light during stereo broadcast. In AV mode, A lights for left channel, B for right channel, or A and B for both channels.

Remote control detector

Point the Remote Commander towards this detector.

Inside the panel

\odot headphones jack (stereo minijack)

\boxplus SEARCH buttons

Press to fine tune a weak channel manually, if required. When \boxplus is pressed, the \boxminus indicator (AFT) goes off and the AFT circuit does not function on the selected channel. To restore the \boxminus AFT circuit on this channel, press \boxplus (AFT) so that the indicator lights up.

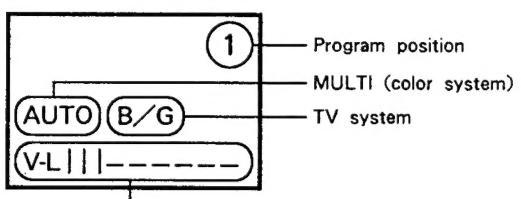
\boxplus AFT button and indicator

Normally, press \boxplus so that the indicator lights up. The AFT circuit automatically fine tunes the channel for the best possible picture.

\triangle volume buttons

PROGR+, PROGR- program scan buttons

On-screen display during presetting



Indicates the approximate location in the band of the channel being tuned in.

"V-L" : low VHF band, "V-H" : high VHF band, "UHF" : UHF band.

The number of upright segments increases for a higher-frequency channel.

Each time TV button is pressed, the following indications appear in this order.

B/G : West European TV standard

I : British TV standard

M : American TV standard

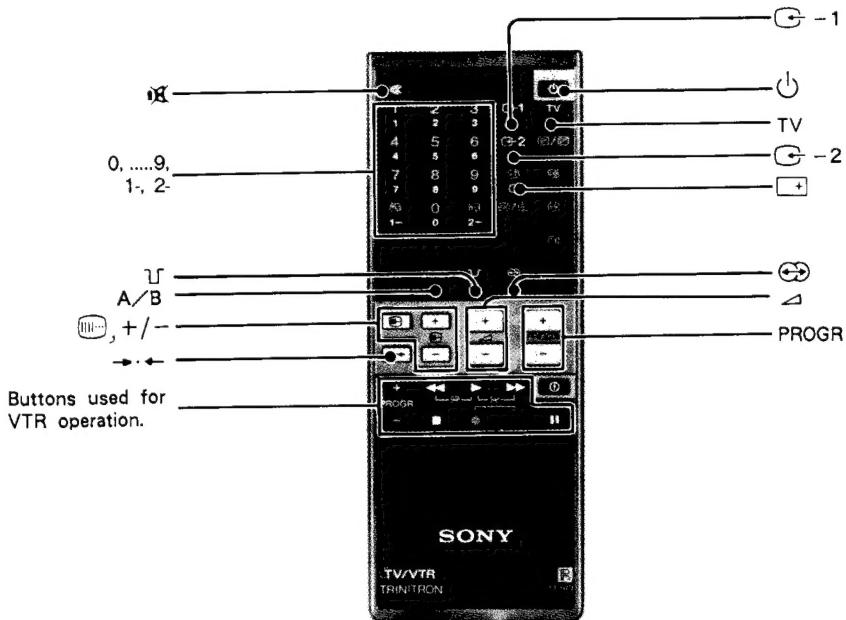
D/K : East European TV standard

L : French TV standard

Each time MULTI button (COLOR SYSTEM) is pressed, the following indications appear in this order.

AUTO ; NTSC3.58 ;

Normally set to the AUTO position. The available color system is selected automatically.



RM-673

On the Remote Commander

To operate the Commander, point it toward the remote control detector.

mute button

0, ..., 9, 1-, 2- buttons

To tune into :

program 15, press 1- and 5.

program 25, press 2- and 5.

A/B button

Press to select the language in a bilingual broadcast, or to select the channel in AV mode.

+/− analogue select buttons

Press .

 will appear on the screen. Adjust by pressing + or −.

Press  again and adjust  (color), then  (brightness),  (bass),  (treble) and  (balance).

→ • ← reset button

Press to reset color, contrast and brightness to factory-set levels.

standby button

Press to change to the standby mode. Use this button to turn off the set for short periods of time.

To turn on the set, press TV or the program number; there will be a slight delay before the picture is restored.

If the main power is turned off when in standby mode, the standby indicator will take 2 to 6 seconds to go off.

TV button

Press to change to the TV mode from standby,  input or teletext modes.

1 input button

Press to view the input picture coming in through the  connector.

 1 lights up on the screen.

Press TV or the program number to return to the TV mode.

2 input button

Press to view the input picture coming in through the  connector.

 2 lights up on the screen.

Press TV or the program number to return to the TV mode.

on-screen display button

Press to make the display appear on the screen.

Press again to make it disappear.

loudness button

Press to emphasize high and low notes.

space sound button

Press to obtain special acoustic effects.

volume buttons

PROGR program scan buttons

Note

Buttons not referred to on this page or next page do not operate.

1-4. VIEWING TELETEXT

To view the teletext service, use the Remote Commander. The buttons for teletext operation are indicated in green.

Operation

- 1 Select the TV channel for the desired teletext service.
- 2 Press  (TEXT/MIX) to display the teletext service. Once  has been pressed, the TV channel cannot be changed.
- 3 Key in the three digits for the desired page using the number buttons. If an error is made, complete the three-digit sequence by keying in any digit. Then re-enter the correct page number. The requested teletext page is displayed.

To return to the TV mode, press TV on the remote commander.

The teletext service can be displayed directly from the standby mode, by pressing .

To receive the teletext service of a different TV channel

- 1 Press TV to return to the TV mode.
- 2 Select the desired TV channel.
- 3 Press .

Note

To receive the teletext service accurately, keep  inside the panel switched on during teletext operation.

To display the index page

Press  (INDEX).

If the necessary signal is not being broadcast, page 100 is displayed.

To access the next or preceding page

Press  (PAGE+) or  (PAGE-).

To superimpose the teletext display on the TV picture

Press  twice from TV mode.

Press again to return to the TEXT display.

To suppress the teletext display so that the TV picture is displayed

Press  (TEXT CL).

This button can be operated from both the TEXT and MIX displays.

To prevent a teletext page (subpage) from being updated /changed

Press  (HOLD). The HOLD symbol appears at the top of the screen.



To resume normal teletext reception, press .

To enlarge the teletext display

Press .

Press once to enlarge the upper half of the display; press again to enlarge the lower half of the display; press again to return to the normal display.

To reveal concealed information such as the answers to a quiz

Press  (REVEAL).

Press again to conceal the answers.

To adjust the contrast of the teletext display.

When in teletext mode, adjust by using the + or - keys adjacent to the  key.

To watch the TV program while waiting for a requested page to be displayed

- 1 Request the new page.

- 2 Press  to watch the TV program.

The requested page number appears at the top left of the screen.

When the requested page has been captured, the page number is displayed in the top left hand corner of the screen.

P101

To view this page, press .

To have a requested page displayed at a pre-determined time

- 1 Request a time coded page (e. g. alarm page).

- 2 Press  (TP ON).

"T***" will appear at the bottom of the screen.

T***

- 3 Enter your request time with the number buttons, using four digits. For example, 07 : 30.

T0730

To watch the TV program until the requested time, press  At the requested time, the page number will be displayed at the bottom of the screen.

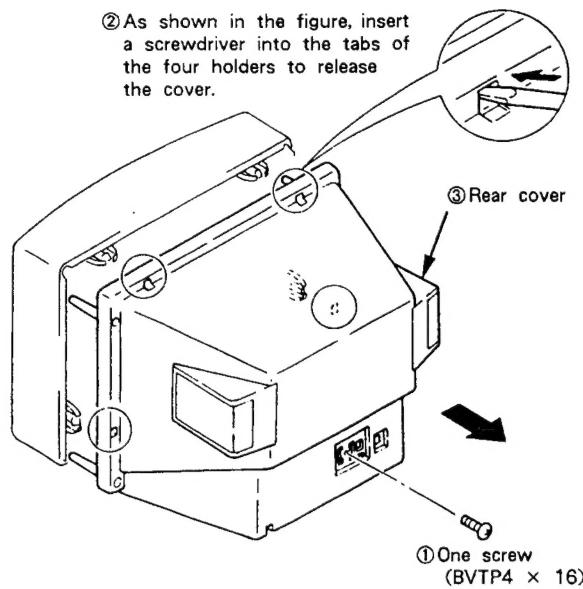
To view this page, press .

To cancel the request, first ensure that the teletext page is displayed, then press  (TP OFF).

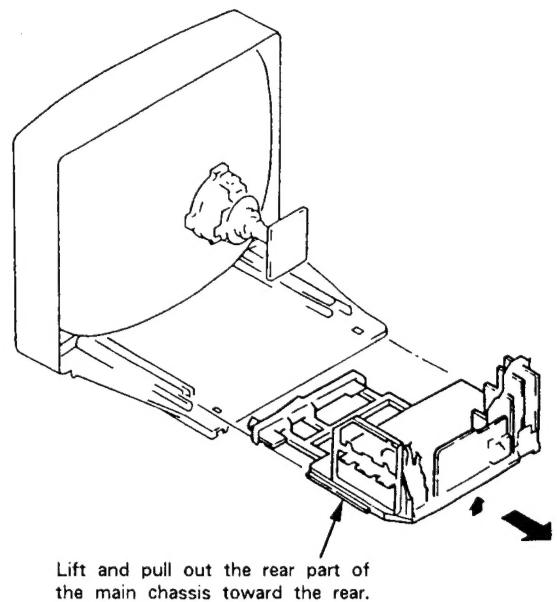
SECTION 2

DISASSEMBLY

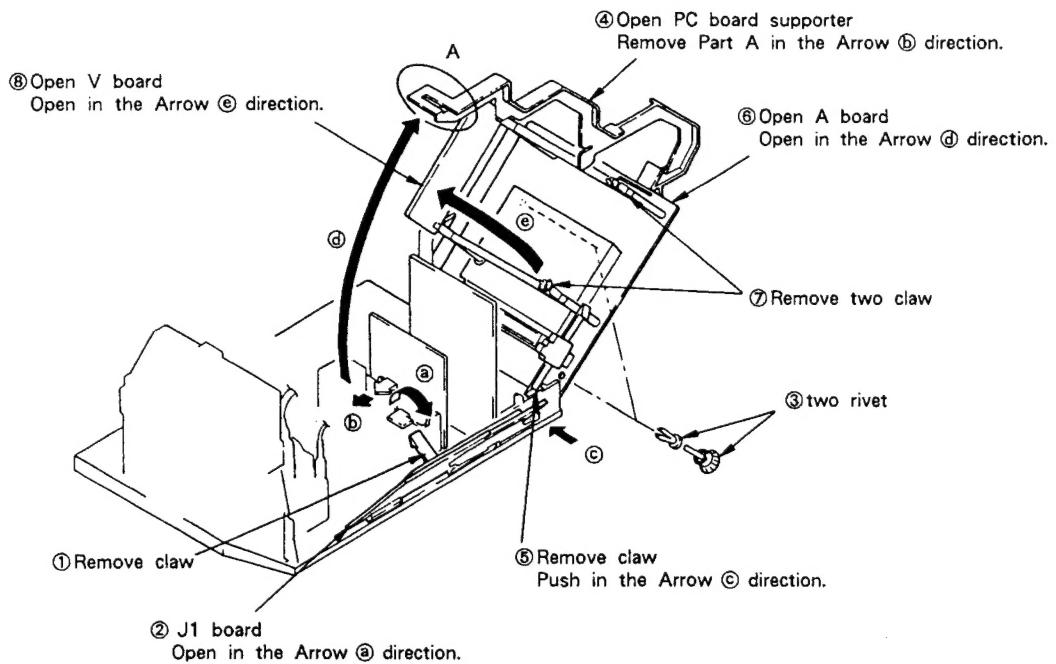
2-1. REAR COVER REMOVAL



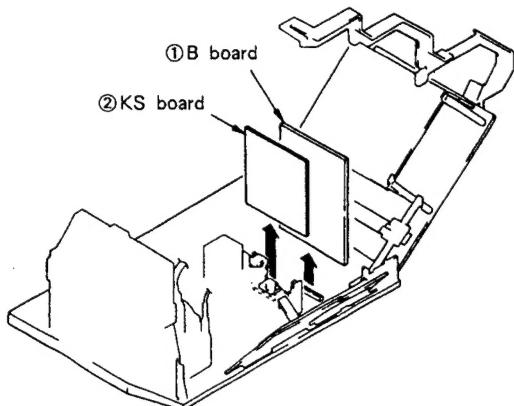
2-2. CHASSIS ASSY REMOVAL



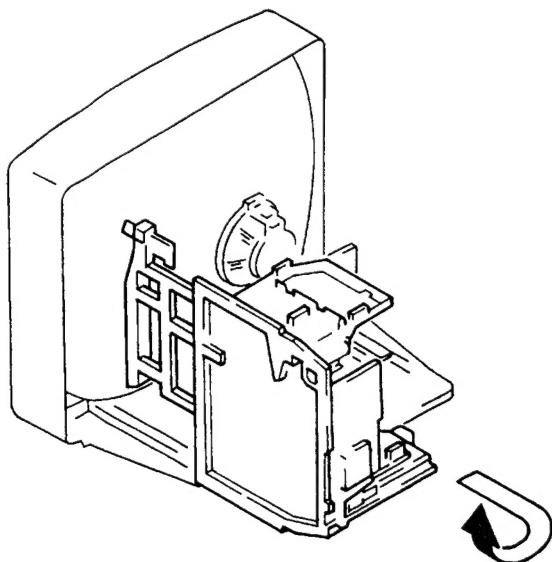
2-3. J1, A AND V BOARDS REMOVAL



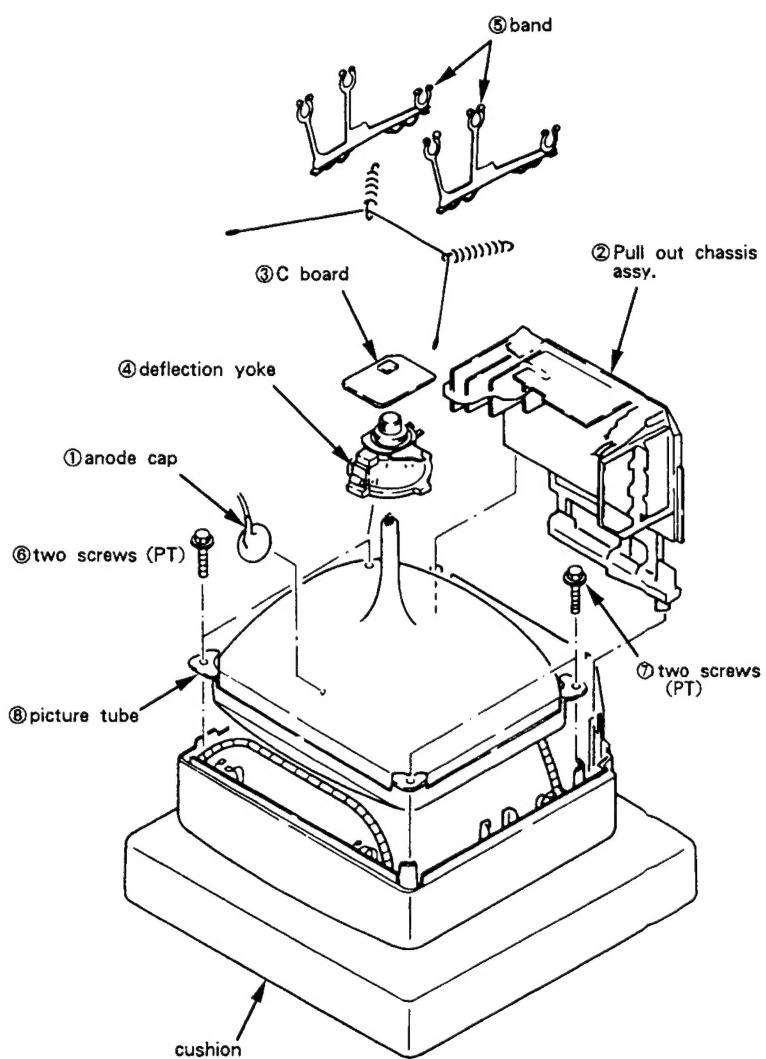
2-4. KS AND B BOARDS REMOVAL



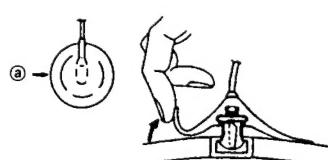
2-5. SERVICE POSITION



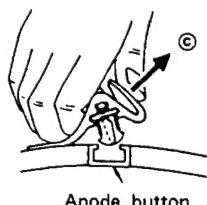
2-6. PICTURE TUBE REMOVAL



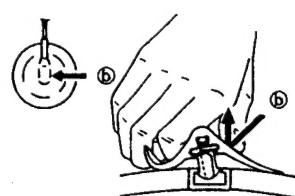
• Removing Procedures



① Turn up one side of the rubber cap in the direction indicated by the arrow ①.



② Using a thumb, pull up the rubber cap firmly in the direction indicated by the arrow ②.



③ When one side of the rubber cap is separated from the anode button, the anode cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ③.

SECTION 3

SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

The control and switch below should be set as follows unless otherwise noted :

CONTRAST control 80% (or Normal by Commander)

BRIGHTNESS control 50%

Perform the adjustments in order as follows :

- Beam Landing
- Convergence
- Focus
- White Balance

Note : Test Equipment Required.

- Color Bar Pattern Generator
- Degausser
- DC Power Supply
- Digital multimeter
- Oscilloscope

Precaution

- Set the side of the unit with the PICTURE TUBE so that it faces east or west in order to reduce the influence of external magnetic force.
- Turn the power switch for the unit ON and erase the magnetic force using a degausser.

3-1. BEAM LANDING

- Input a raster signal with the pattern generator.
CONTRAST normal
BRIGHTNESS normal
- Turn the raster signal of the pattern generator to red.
- Move the deflection yoke backward, and adjust with the purity control so that red is in the center and blue and green are at the sides, evenly. (Fig. 3-1 to 3-3)
- Move the deflection yoke forward, and adjust so that the entire screen becomes red. (Fig. 3-1)
- Switch over the raster signal to blue and green and confirm the condition.
- When the position of the deflection yoke is determined, tighten it with a deflection yoke mounting screw.
- When landing at the corners is not right, adjust by using the magnet. (Fig. 3-4)

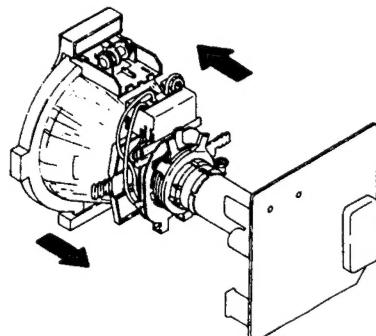


Fig. 3-1

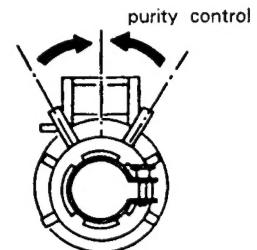


Fig. 3-2

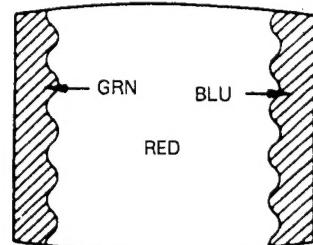


Fig. 3-3

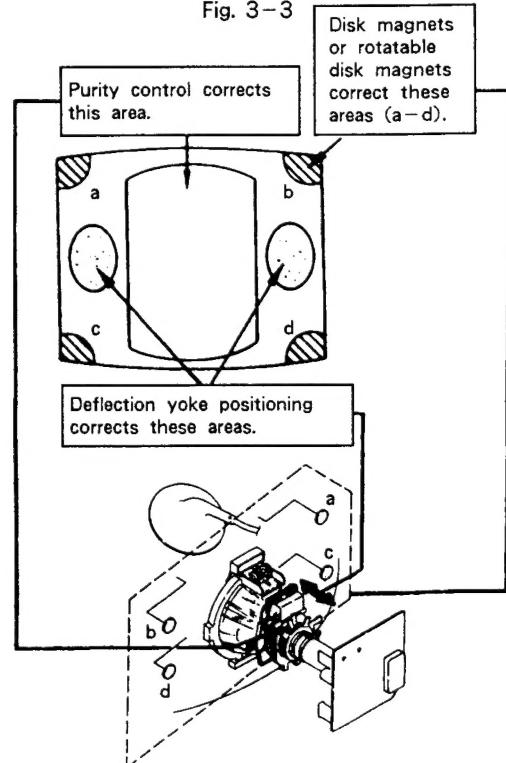


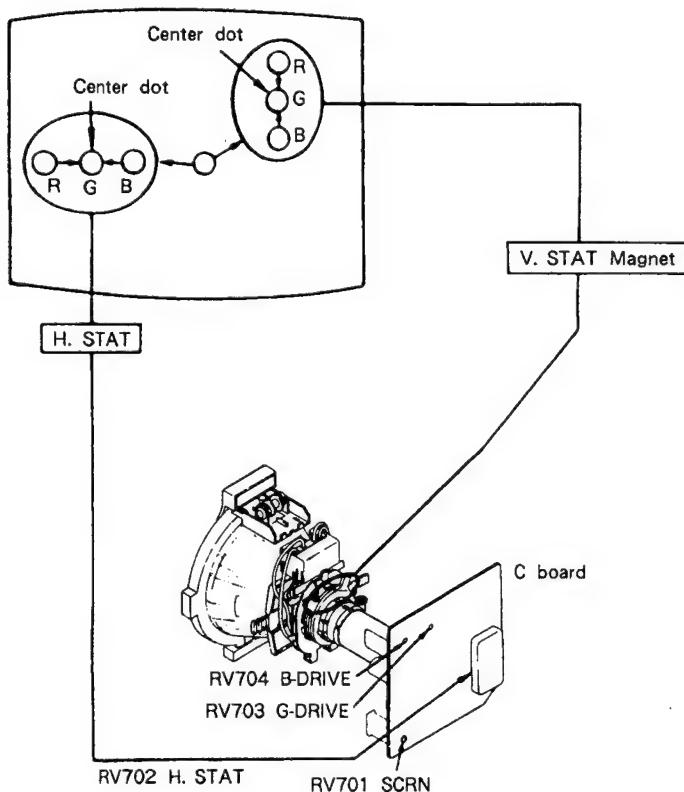
Fig. 3-4

3-2. CONVERGENCE

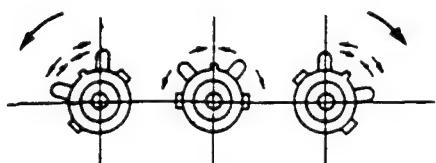
Preparation :

- Before starting, perform FOCUS, H. SIZE and V. SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Feed in the dot pattern.

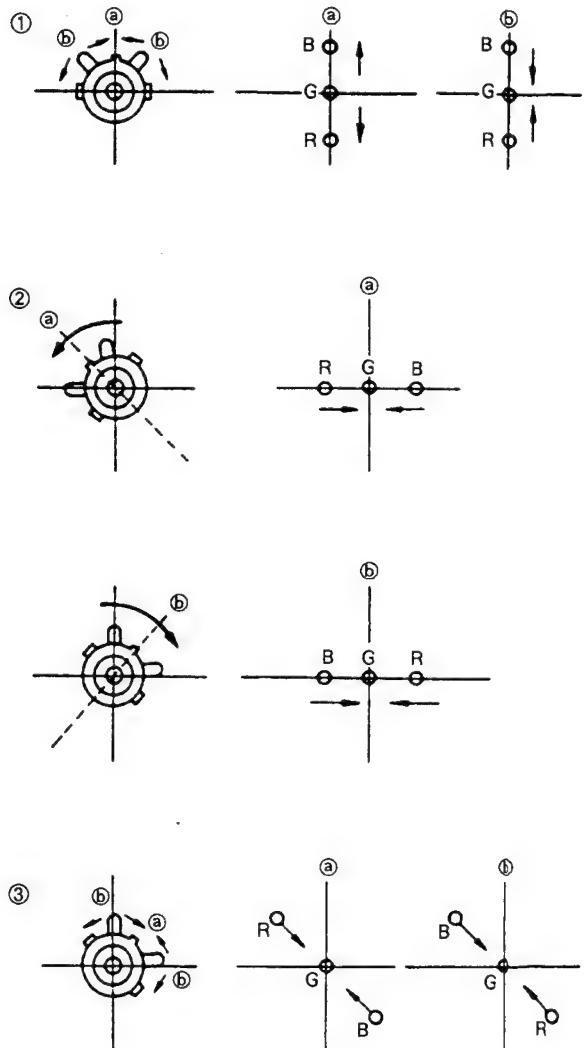
(1) Horizontal and Vertical Static Convergence



1. Adjust H. STAT VR to coincide red, green and blue dots on the center of screen. (Horizontal movement)
2. Adjust V. STAT magnet to coincide red, green and blue dots on the center of screen. (Vertical movement)
3. If the red, green and blue dots do not coincide on the center of screen with H. STAT VR, perform horizontal convergence adjustment using H. STAT VR and V. STAT magnet as shown below. (In this case, H. STAT VR and V. STAT magnet effect each other.)
- Tilt the V. STAT magnet and adjust static convergence to open or close the V. STAT magnet.



4. When the V. STAT magnet is moved in the direction of arrow ③ and ⑤, red, green and blue dots move as shown below.

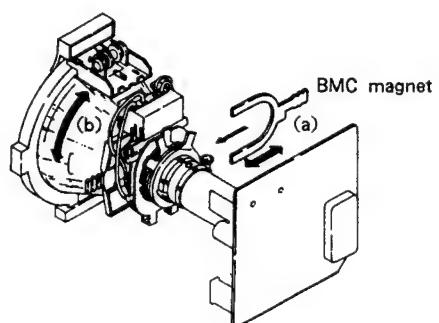


If the red and blue dots do not coincide with green dot, perform following steps.

Move BMC magnet (a) to correct insufficient H. static convergence.

Rotate BMC magnet (b) to correct insufficient V. static convergence.

In either case, repeat Beam Landing Adjustment.

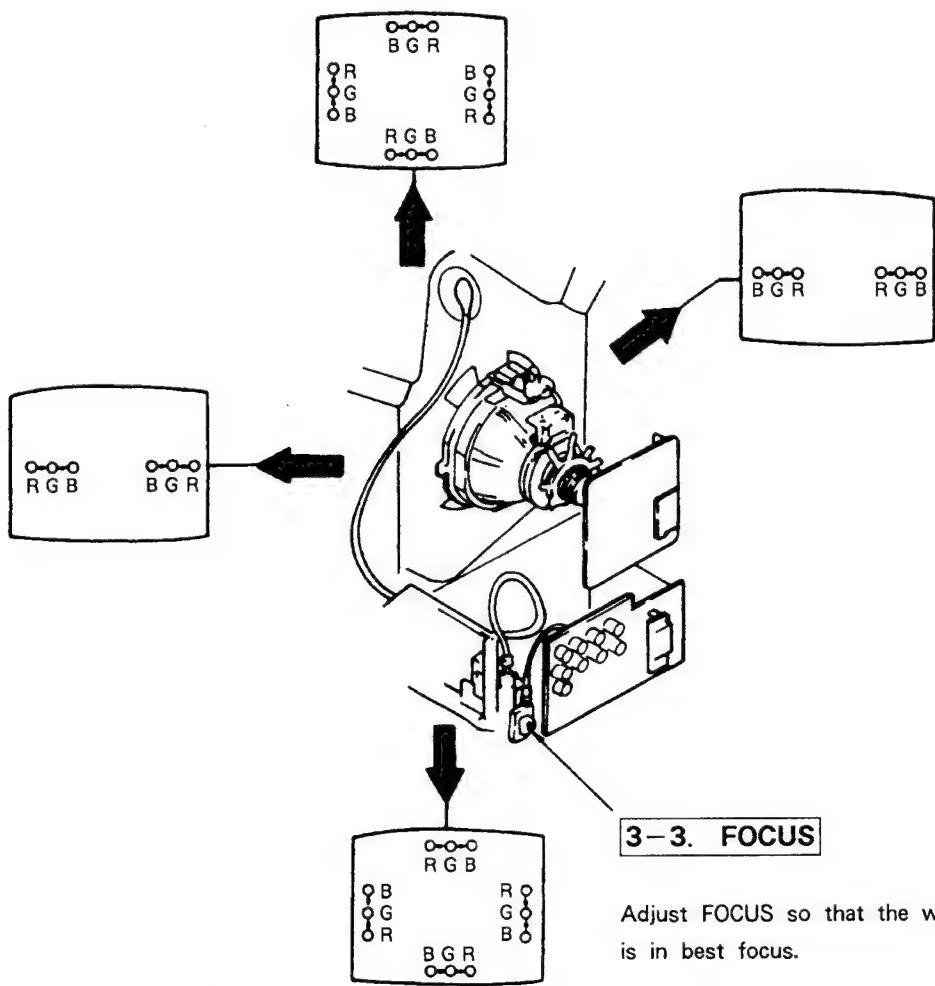


(2) Dynamic Convergence Adjustment

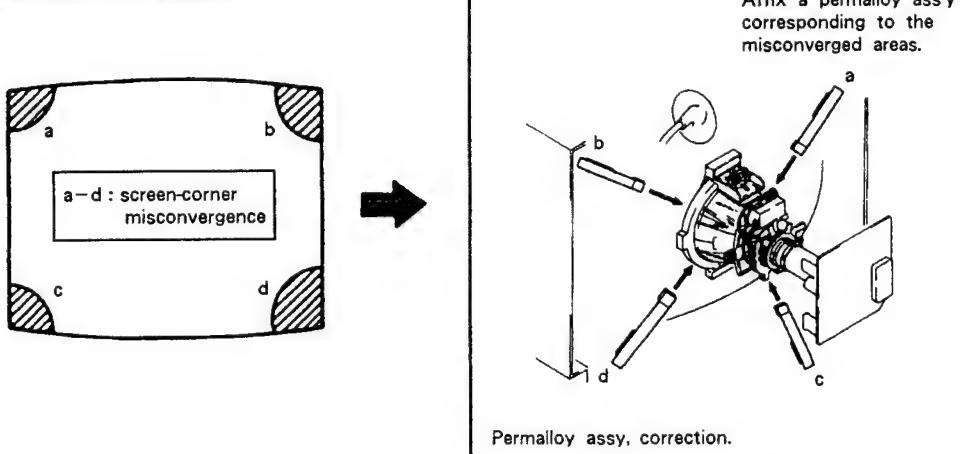
Preparation :

- Before starting, perform Horizontal and Vertical Static Convergence Adjustment.
- 1. Slightly loosen deflection yoke screw.
- 2. Remove deflection yoke spacers.

3. Move the deflection yoke for best convergence as shown below.
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.



(3) Screen-corner Convergence



3-4. WHITE BALANCE

(Screen (G2) Setting)

1. Input dot signals from the pattern generator.
2. Set the picture BRIGHTNESS control to the minimum level.
3. Apply 170 V dc to the cathodes of R, G, and B from an external power source.
4. While watching the picture, adjust the G2 volume (RV701) immediately before the fly-back line disappears.

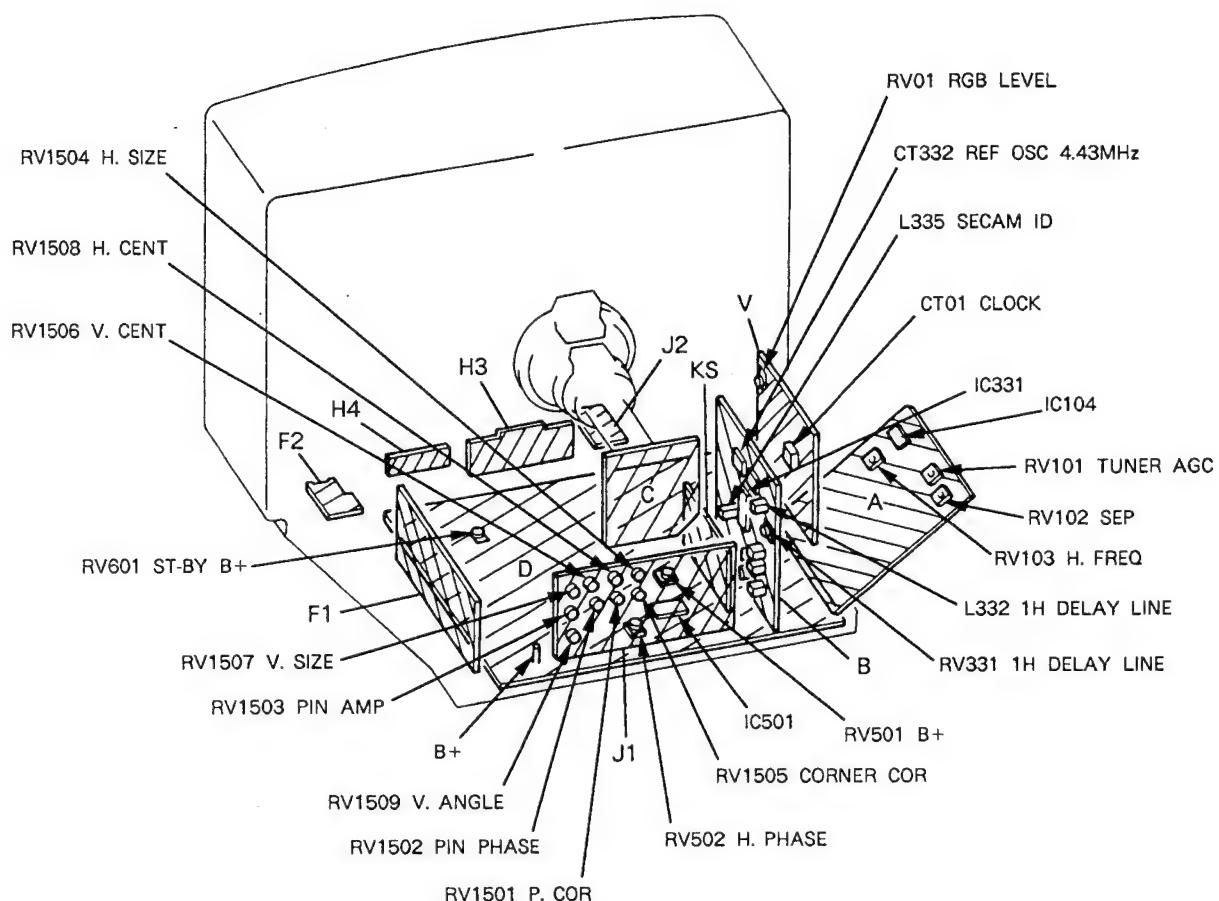
(White Balance Adjustment)

1. Input all-white signals from the pattern generator.
2. Adjust the BRIGHTNESS and COLOR controls to the standard level.
3. Adjust the white balance using RV704 (B DRIVE) and RV703 (G DRIVE).

In the following adjustments, the CONTRAST COLOR and BRIGHTNESS controls are set to normal unless otherwise specified.

SECTION 4

CIRCUIT ADJUSTMENTS



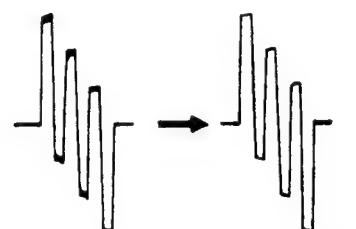
4-1. B BOARD ADJUSTMENTS

REF OSC Adjustment (CT332)

1. Input a PAL COLOR BAR pattern.
2. Short circuit between pin ⑪ of IC331 and ground.
3. Adjust CT332 to obtain color synchronization.
4. Remove the jumper wire from IC331.

1H DELAY LINE Adjustment (L332, RV331)

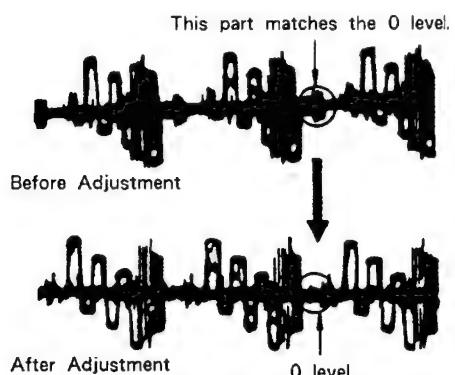
1. Input a PAL COLOR BAR pattern.
2. Connect the oscilloscope to pin ③ (B-Y) of IC331 and observe the waveform of the H block on the oscilloscope.
3. Adjust L332 to minimize the double waveform outline.



Before Adjustment

After Adjustment

4. Input a PAL TEST COLOR BAR pattern.
5. Rotate the RV331 VR and adjust till the ANTI-PAL part of the waveform matches the 0 level.



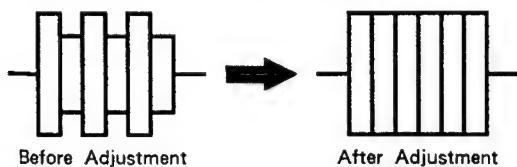
6. L332 and RV331 affect each other. So repeat till the conditions of both are met.

SECAM ID Adjustment (L335)

1. Input a SECAM COLOR BAR pattern.
2. Connect a Digital Multimeter to pin ⑪ of IC331.
3. Adjust L335 so that the indicator goes up to the maximum.

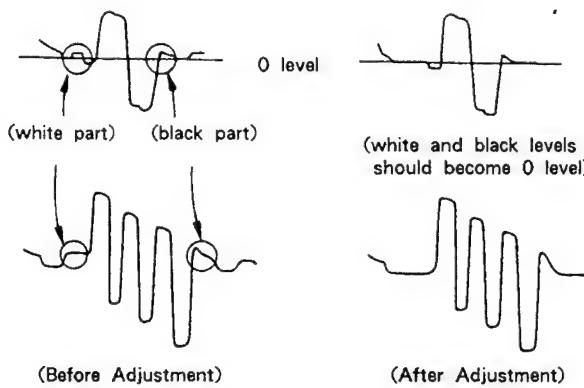
BELL FILTER Adjustment (T331)

1. Input a SECAM COLOR BAR pattern.
2. Connect an oscilloscope to the Q335 emitter.
3. Adjust T331 so that the waveform becomes flat.



SECAM DISCRI Adjustment (L333, L334)

1. Input a SECAM COLOR BAR pattern.
2. Connect an oscilloscope to pin ① of IC331.
3. Adjust L333 so that white and black parts of the waveform of pin ① becomes 0 level.
4. Connect an oscilloscope to pin ③ of IC331.
5. Adjust L334 so that white and black parts of the waveform of pin ③ becomes 0 level.



4-2. D BOARD ADJUSTMENTS

B+ Adjustment (RV501)

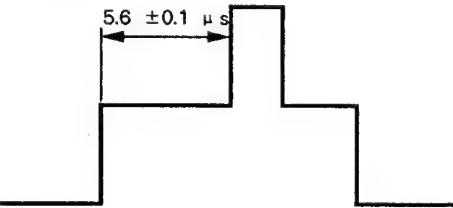
1. Connect a Digital Multimeter to TP91.
2. Adjust RV501 so that the voltage becomes 135 ± 0.2 V.

ST-BY B+ Adjustment (RV601)

1. Set up \odot standby (Remote Commander) mode.
2. Connect the Digital Multimeter to TP91.
3. Adjust RV601 so that the voltage becomes 135 ± 3 V.
4. Release the \odot standby (Remote Commander) mode.

H. PHASE Adjustment (RV502)

1. Input a PAL TEST COLOR BAR pattern.
2. Set the CONTRAST and BRIGHTNESS controls to the standard positions.
3. Set RV1508 (H. CENT) to the mechanical center position.
4. Connect an oscilloscope to pin ⑪ (SPC OUT) of IC501.
5. Rotate RV502 and adjust Block T to 5.6 ± 0.1 μ s.



4-3. A BOARD ADJUSTMENTS

TUNER AGC Adjustment (RV101)

1. Tune in an off-air signal.
2. Adjust RV101 so that snow-noise and cross-modulation just disappear from the picture.

STEREO SEPARATION Adjustment (RV102)

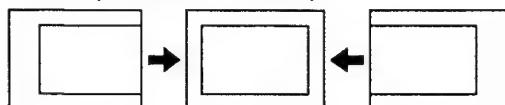
1. Input stereo signals. (L-CH 1 kHz, R-CH 400 Hz)
2. Check the stereo indicator.
3. Connect an oscilloscope to pin ① (L) of CNA11 through band pass filter of 1 kHz.
4. Adjust RV102 so that 1 kHz voltage goes down to the minimum.

H. FREQ Adjustment (RV103)

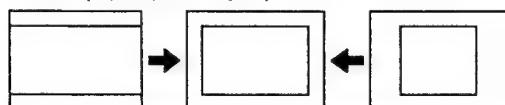
1. Input a PAL COLOR BAR pattern.
2. Short circuit between pin ⑫ of IC104 and ground.
3. Connect a frequency counter to pin ⑥ of IC104 through a probe of 10 : 1.
4. Adjust RV103 so that H. frequency becomes $15,625 \pm 50$ Hz.

4-4. J1 BOARD ADJUSTMENTS

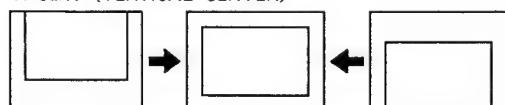
RV1508
H. CENT (HORIZONTAL CENTER)



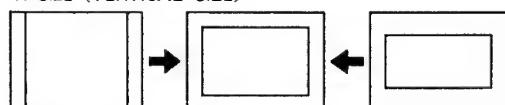
RV1504
H. SIZE (HORIZONTAL SIZE)



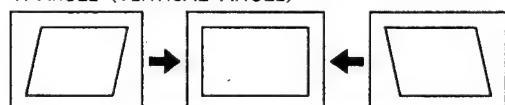
RV1506
V. CENT (VERTICAL CENTER)



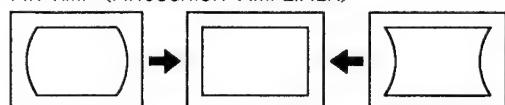
RV1507
V. SIZE (VERTICAL SIZE)



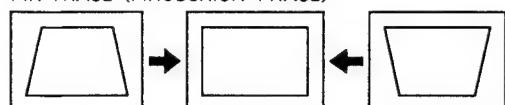
RV1509
V. ANGLE (VERTICAL ANGLE)



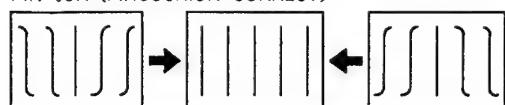
RV1503
PIN AMP (PINCUSHION AMPLIFIER)



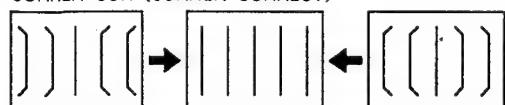
RV1502
PIN PHASE (PINCUSHION PHASE)



RV1501
PIN COR (PINCUSHION CORRECT)



RV1505
CORNER COR (CORNER CORRECT)



4-5. V BOARD ADJUSTMENTS

Clock Adjustment (CT01)

1. Disconnect the V-1 connector.
2. Set up the TELE TEXT mode.
3. Adjust CT01 to stop pictures from scrolling.

RGB Level Adjustment (RV01)

1. Set PICTURE to maximum.
2. Adjust RV01 till the RGB output becomes 0.75 V.

4-6. SUB ADJUSTMENTS

SUB BRIGHTNESS Adjustment

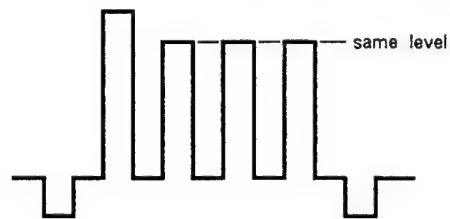
1. Receive and display a TEST COLOR BAR pattern.
2. Push $\rightarrow \leftarrow$ on the remote commander to invoke the normal state.
3. Turn off the power supply.
4. Turn on the power supply while pushing the SUB button (S1414). (SUB mode is invoked.)
5. Reduce the \odot CONTRAST to the minimum level.
6. Adjust the \odot BRIGHTNESS control until the 0 IRE of the gray scale becomes completely cut off, and the 20 IRE becomes barely luminous.
7. Push the AFT button. (SUB mode is cleared)

Where no TEST COLOR BAR pattern is available.

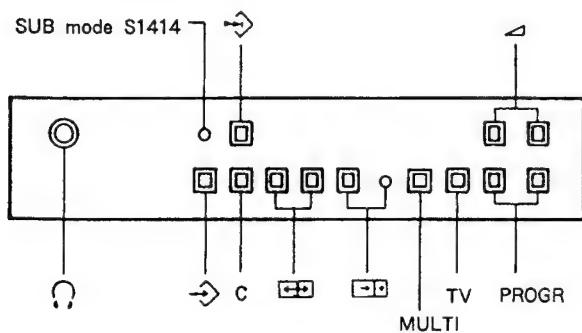
1. Display a COLOR BAR pattern.
2. Push $\rightarrow \leftarrow$ on the remote commander to invoke the normal state.
- Set the \odot COLOR to normal mode.
- Steps 3 – 5 are the same as above.
6. 20 IRE is close to blue, so adjust the \odot BRIGHTNESS control till blue is faintly luminous.
7. Same as Step 7 above.
8. Push $\rightarrow \leftarrow$ on the remote commander to invoke the normal state.
- * When Step 4 is executed correctly, S (SUB mode) is displayed at the upper right of the display. As S is displayed only for 30 seconds, perform the adjustment within 30 seconds, or repeat from Step 4.

SUB COLOR Adjustment

1. Display a COLOR BAR pattern.
2. Push $\rightarrow \leftarrow$ on the remote commander to invoke the normal state.
3. Turn off the power supply.
4. Turn on the power supply while pushing the SUB button (S1414). (SUB mode is invoked.)
5. Adjust the COLOR control until the B out (pin ② of CNC72 connector on C board) waveform becomes as shown below.
6. Push the AFT button. (SUB mode is cleared.)

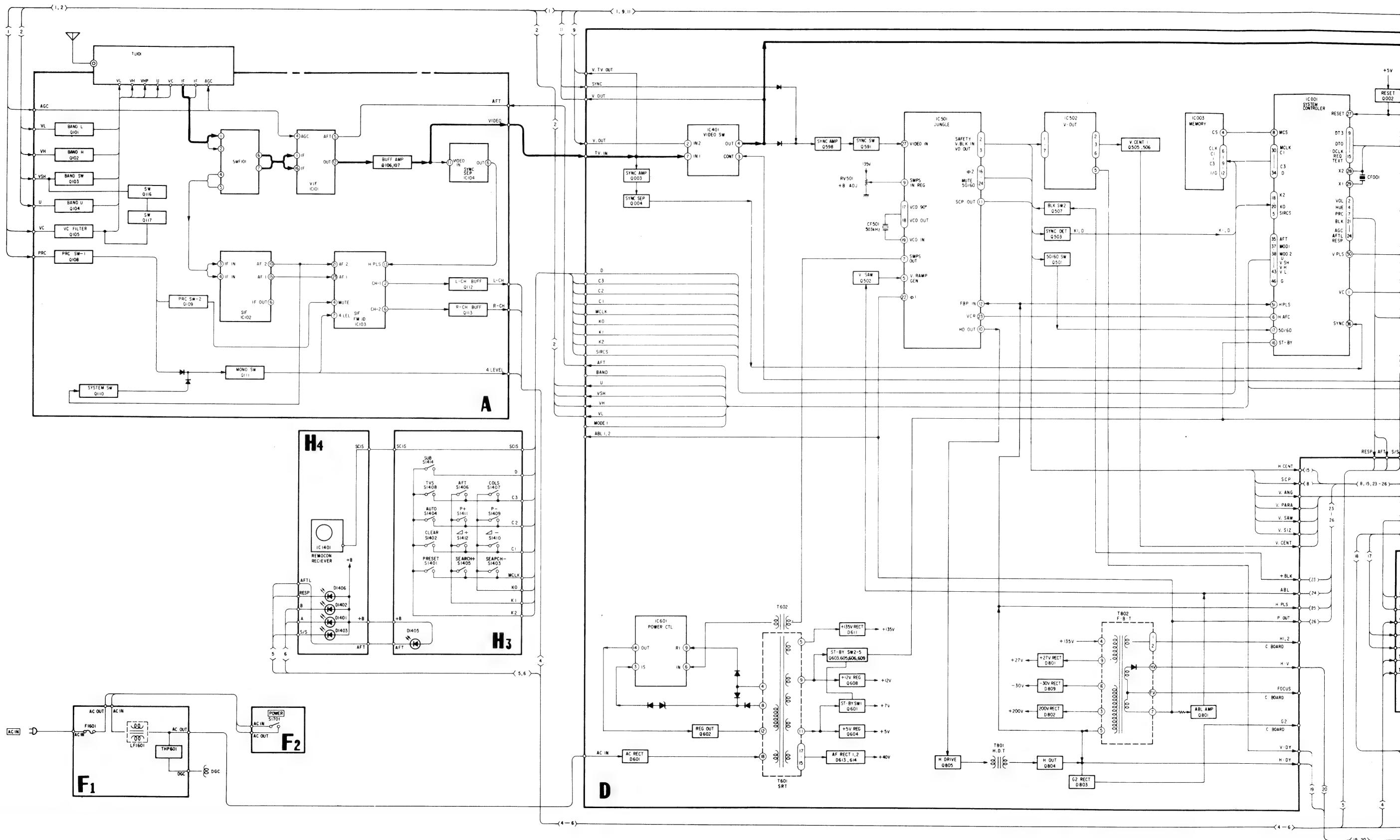


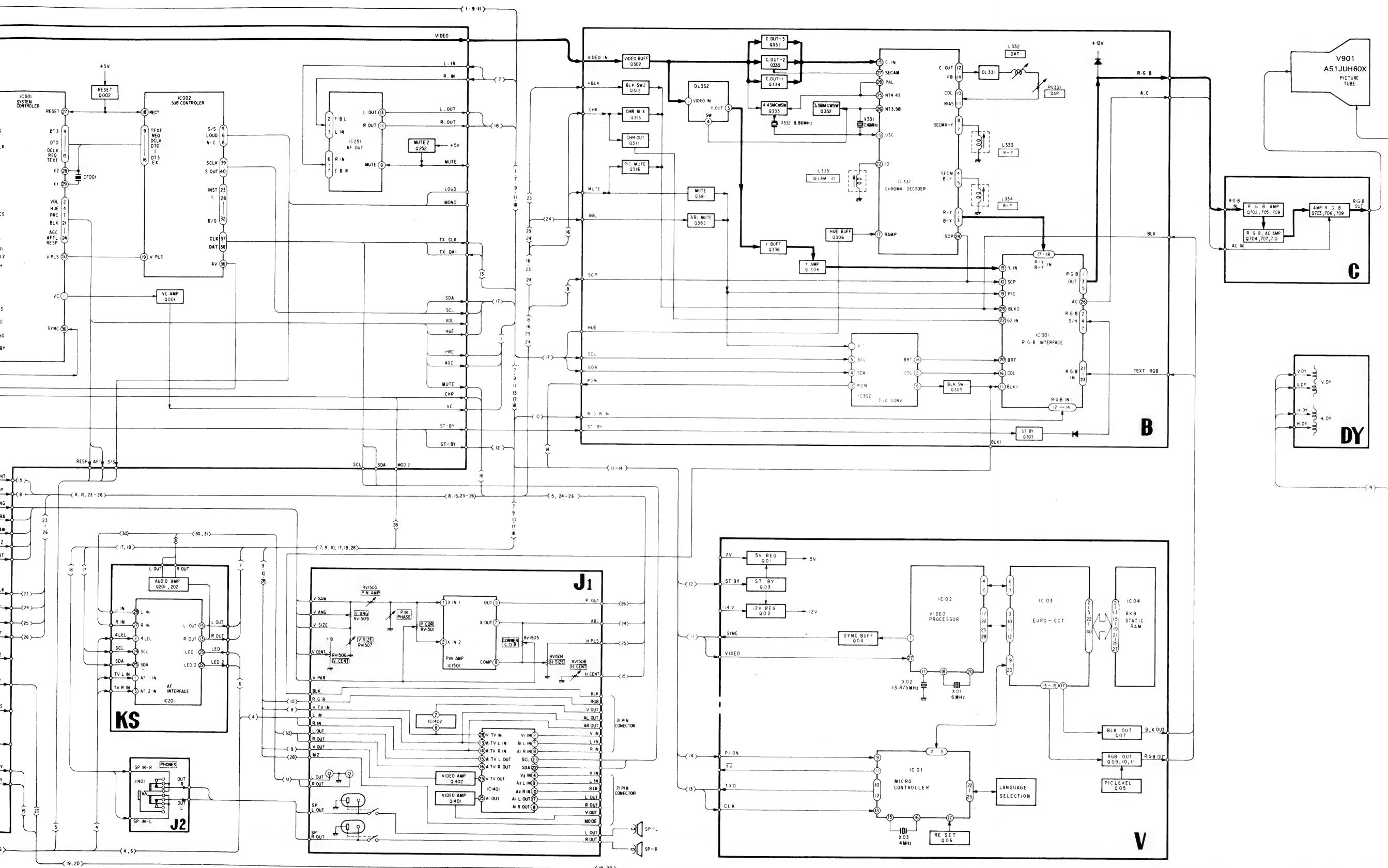
* When Step 4 is executed correctly, S (SUB mode) is displayed at the upper right of the display. As S (SUB mode) is displayed only for 30 seconds, perform the adjustment with 30 seconds, or repeat from Step 4.



SECTION 5 DIAGRAMS

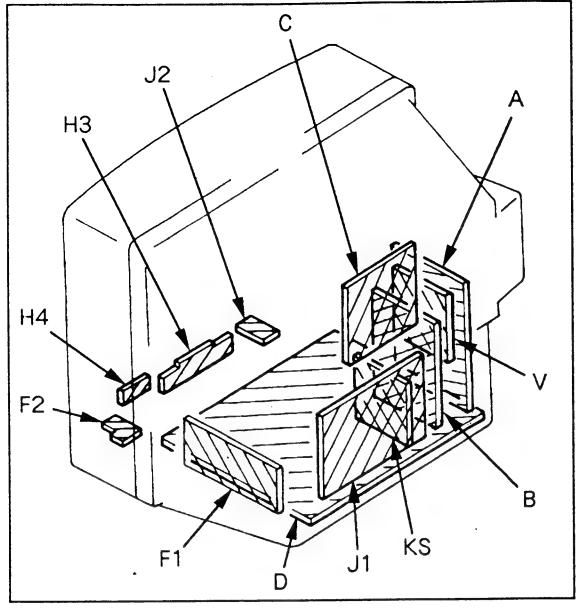
5-1. BLOCK DIAGRAM





5-3. SCHEMATIC DIAGRAMS

5-2. CIRCUIT BOARDS LOCATION



Note :

- All capacitors are in μ F unless otherwise noted.
PF : μ F 50 WV or less are not indicated except for electrolytics.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

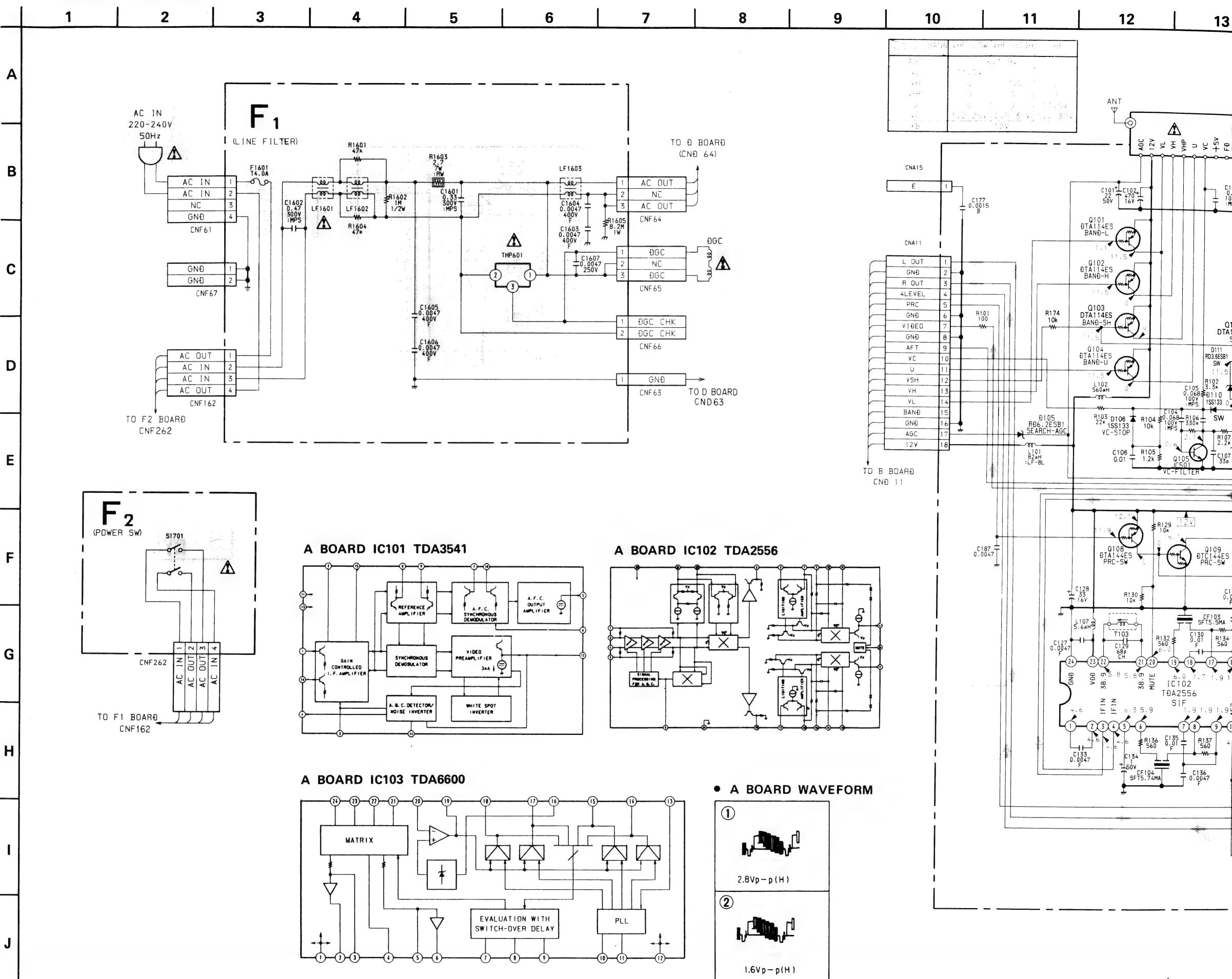
Pitch: 5 mm
Rating electrical power 1/4W

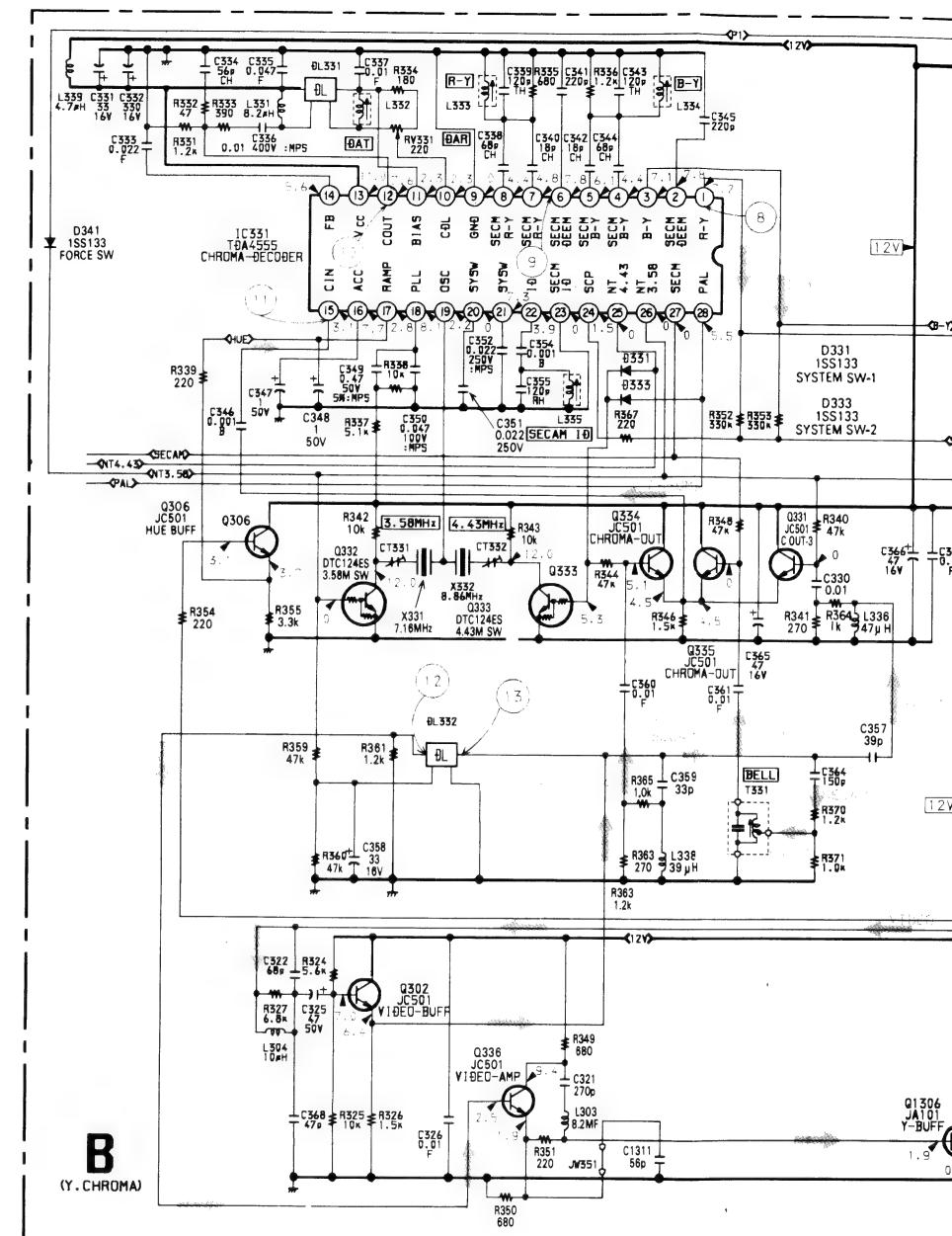
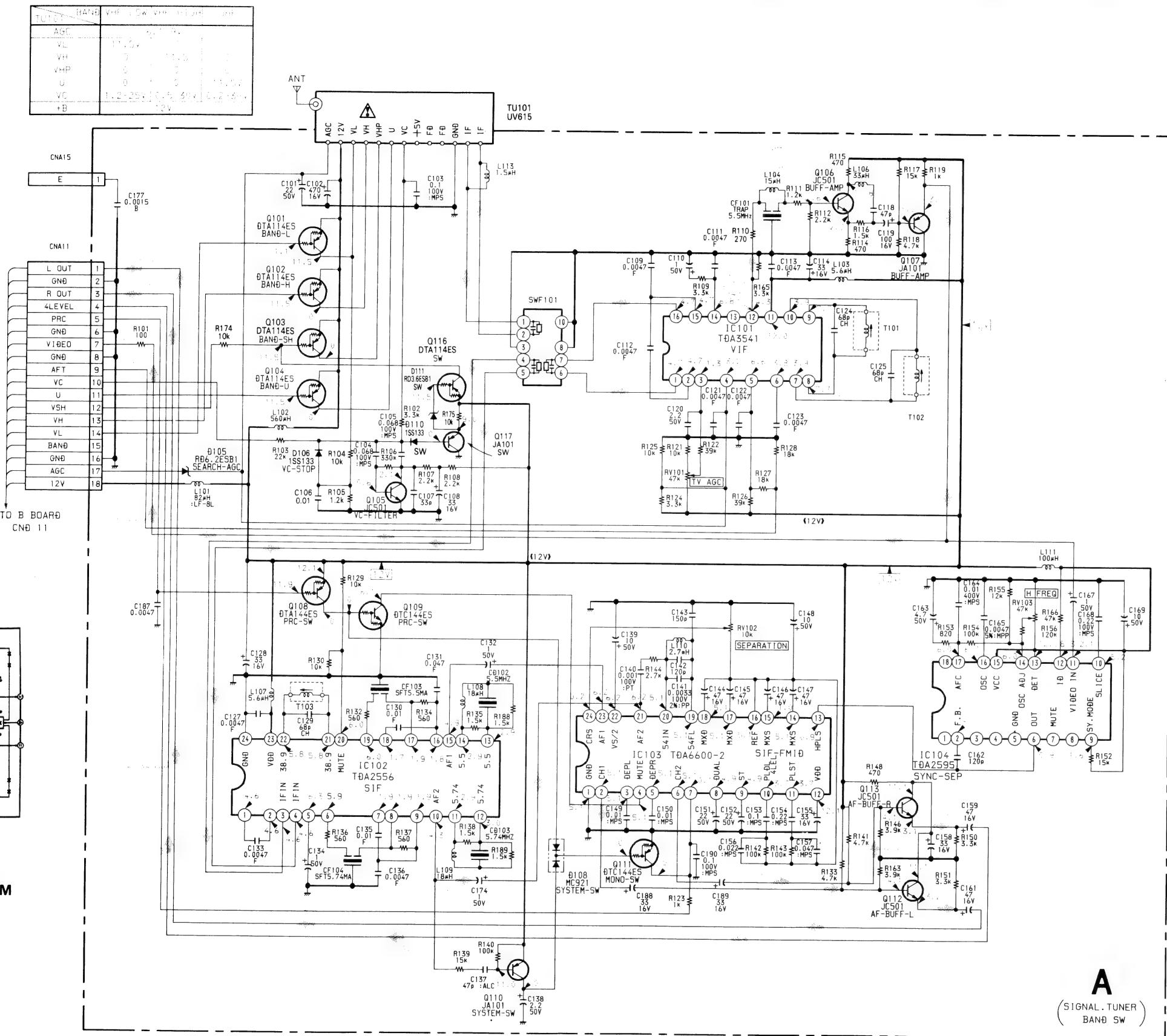
- All resistors are in ohms.
- : nonflammable resistor.
- : fusible resistor.
- : internal component.
- : panel designation.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All voltages are in V.
- Readings are taken with a 10 M Ω digital multimeter.
- Readings are taken with a PAL color-bar signal input.
- : adjustment for repair.
- Voltage variations may be noted due to normal production tolerance.
- : B+ bus.
- : B- bus.
- : signal path.

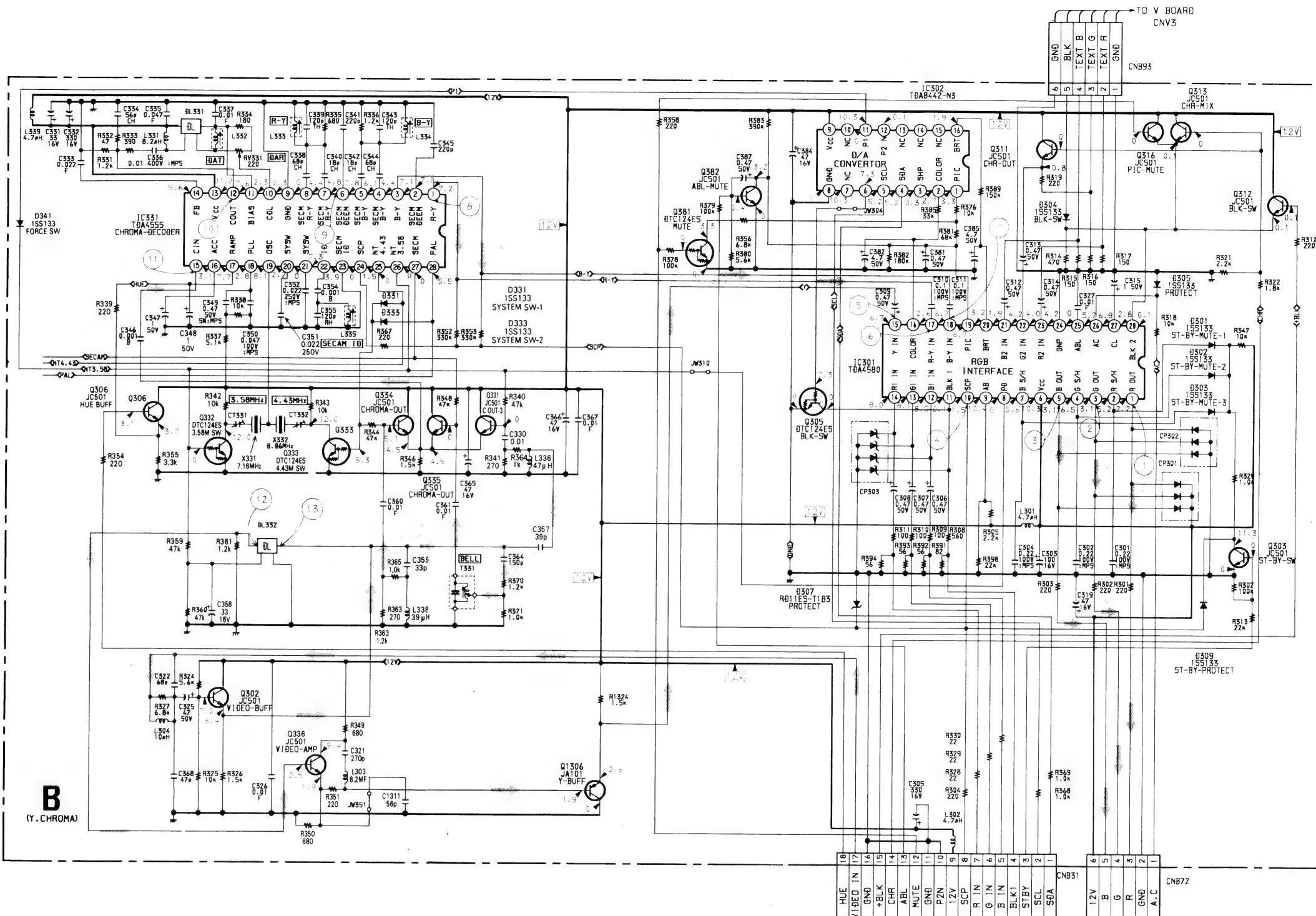
Reference information

RESISTOR	: RN METAL FILM
	: RC SOLID
	: FPRD NONFLAMMABLE CARBON
	: FUSE NONFLAMMABLE FUSIBLE
	: RW NONFLAMMABLE WIREWOUND
	: RS NONFLAMMABLE METAL OXIDE
	: RB NONFLAMMABLE CEMENT
COIL	: LF-8L MICRO INDUCTOR
CAPACITOR	: TA TANTALUM
	: PS STYROL
	: PP POLYPROPYLENE
	: PT MYLAR
	: MPS METALIZED POLYESTER
	: MPP METALIZED POLYPROPYLENE
	: ALB BIPOLAR
	: ALT HIGH TEMPERATURE
	: ALR HIGH RIPPLE

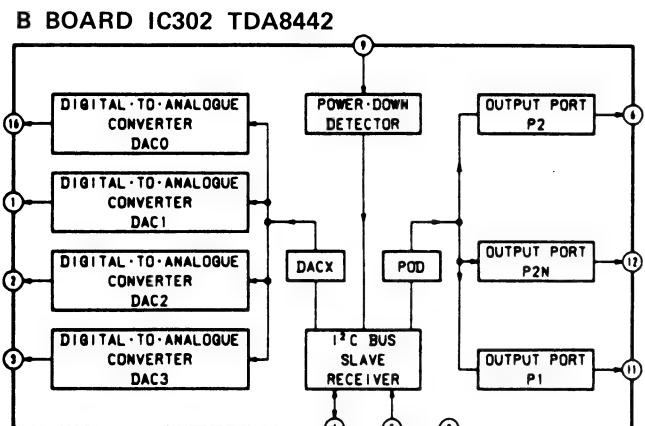
Note: The components identified by shading and mark are critical for safety. Replace only with part number specified.



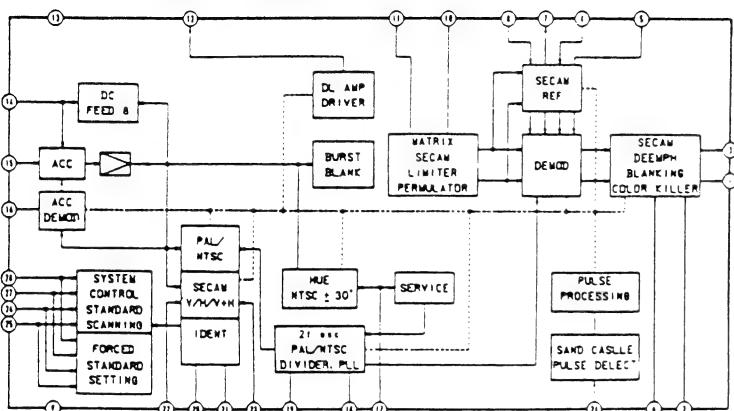




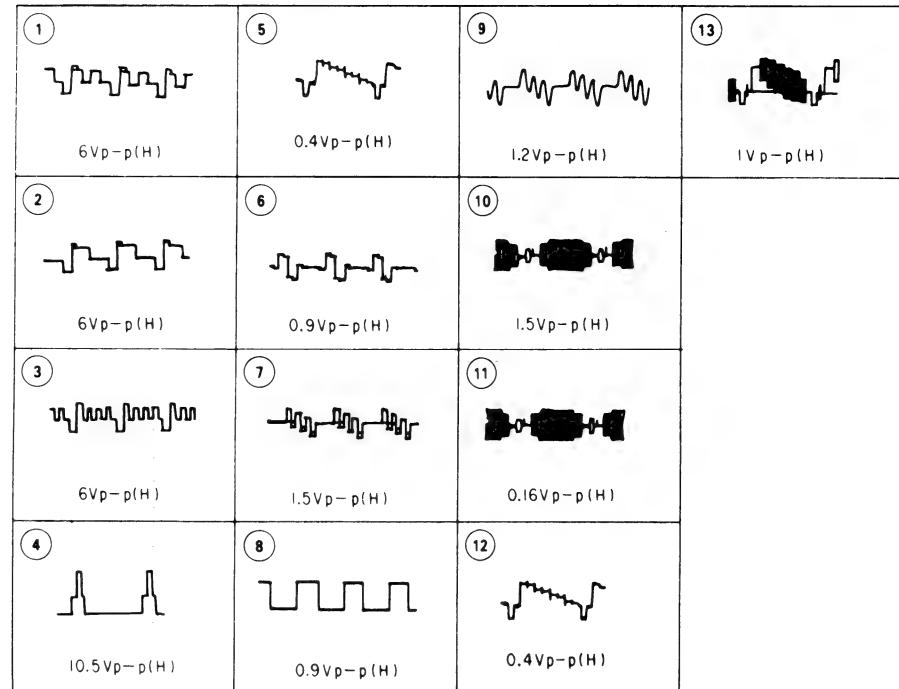
A
(SIGNAL. TUNER
BAND SW)



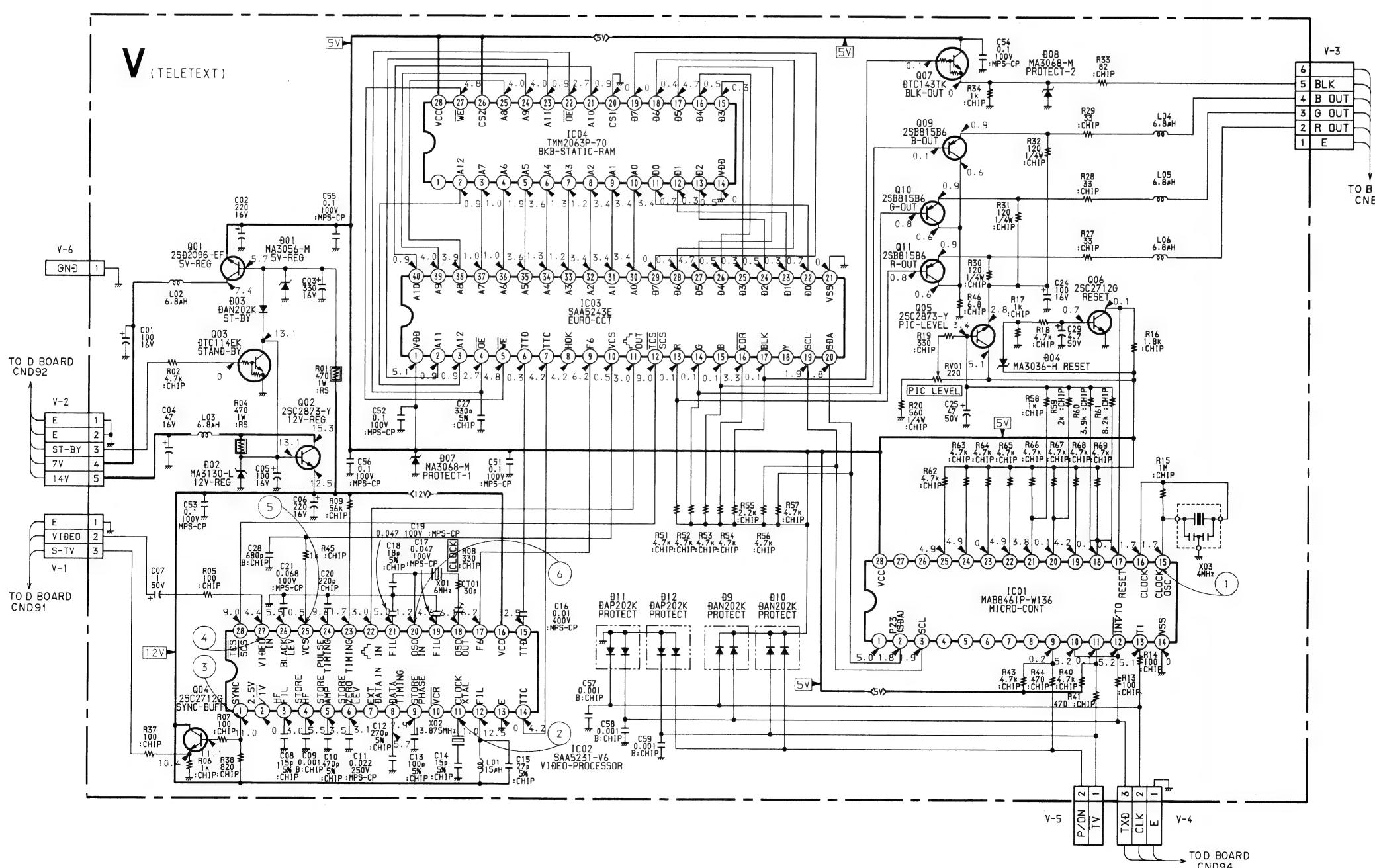
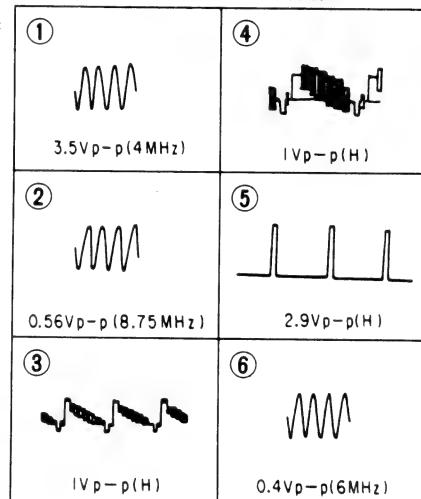
B BOARD IC331 TDA4555



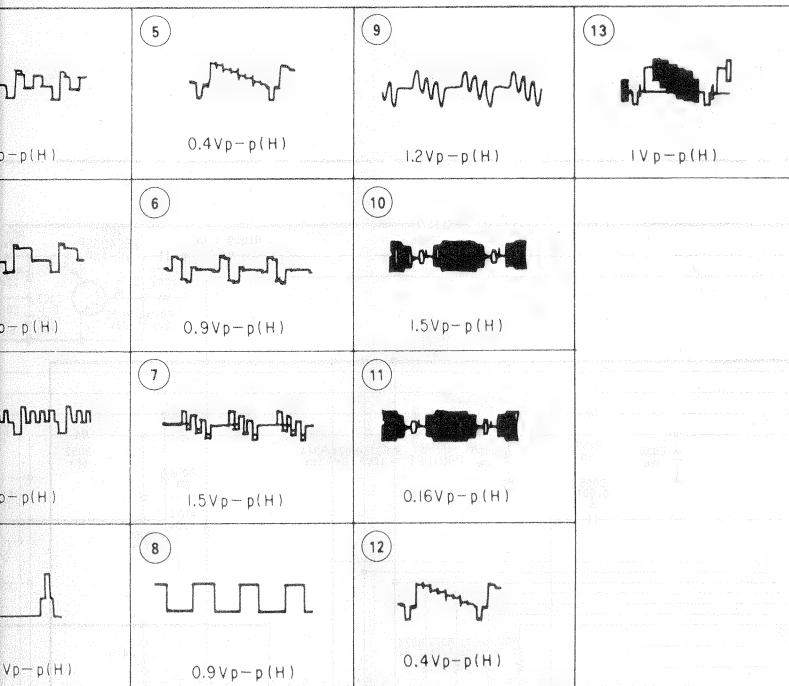
- B BOARD WAVEFORM



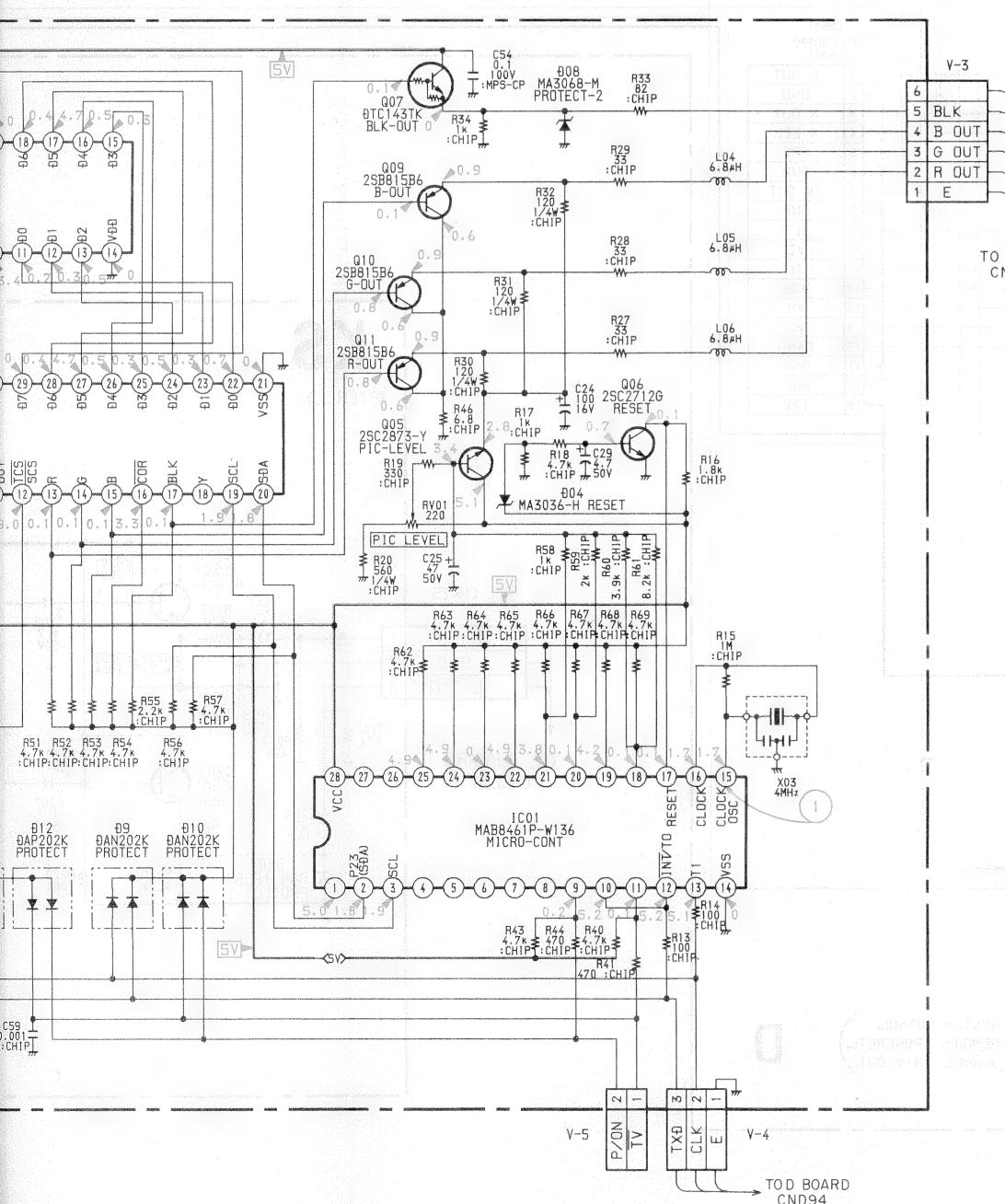
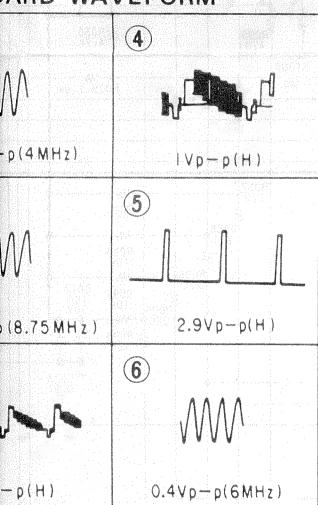
- V BOARD WAVEFORM



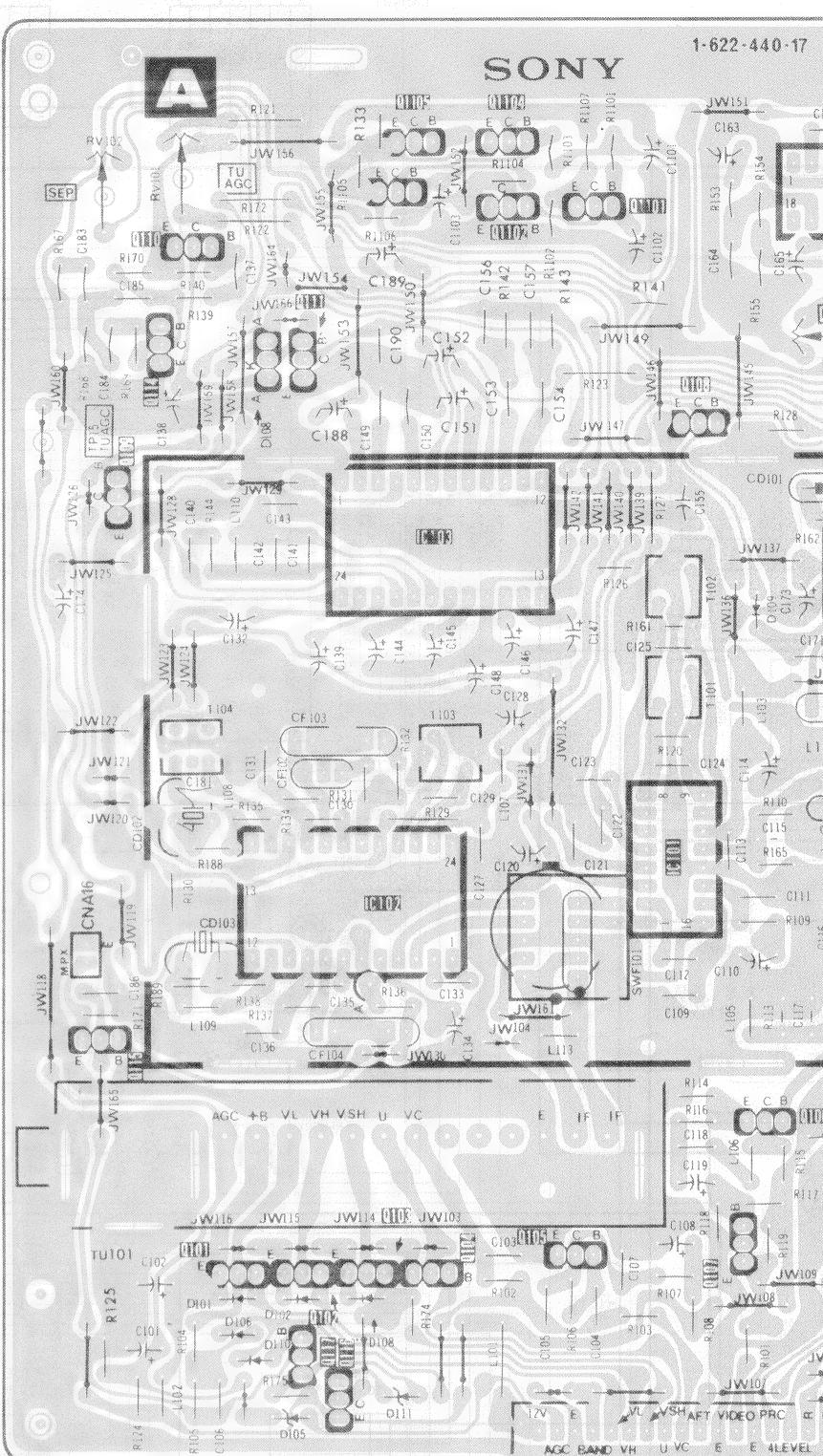
STANDARD WAVEFORM



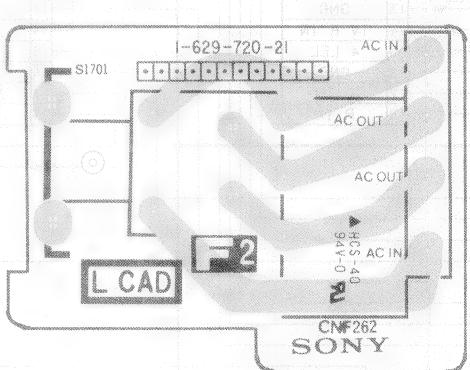
SPARD WAVEFORM

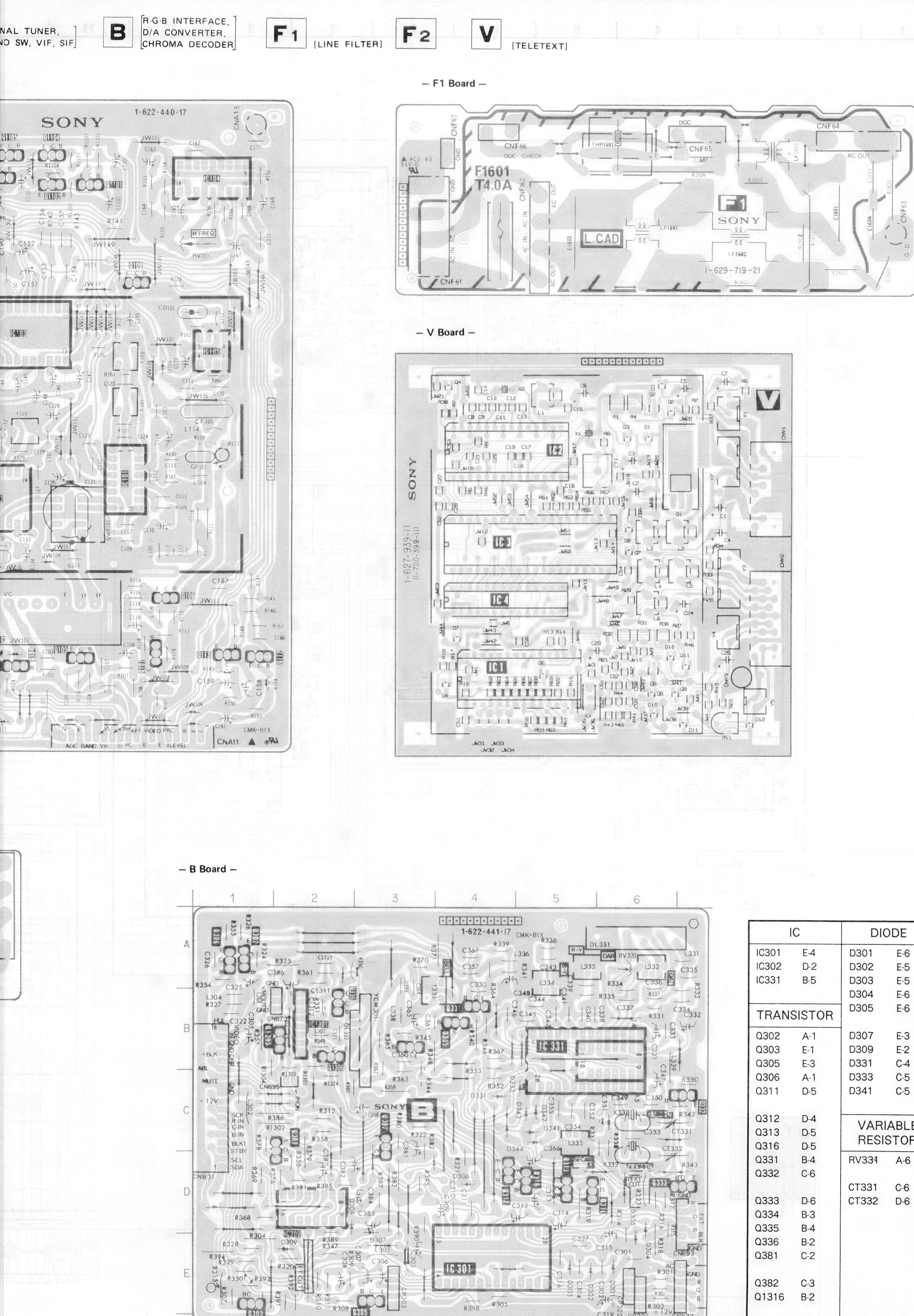


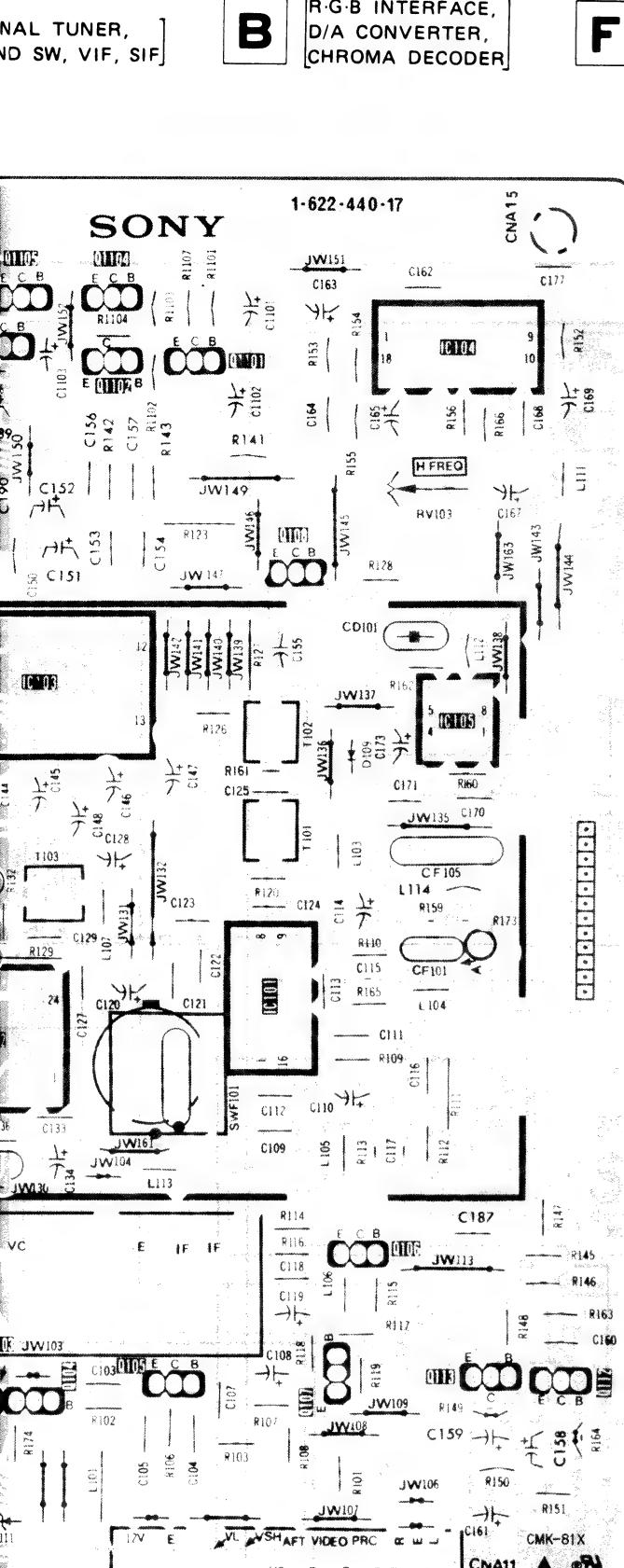
— A Board —



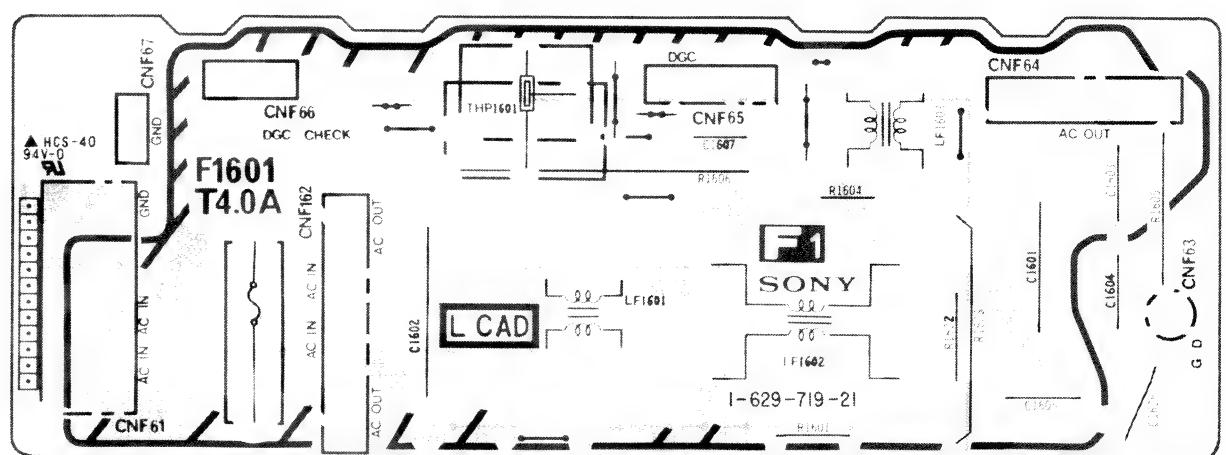
— E2 Board —



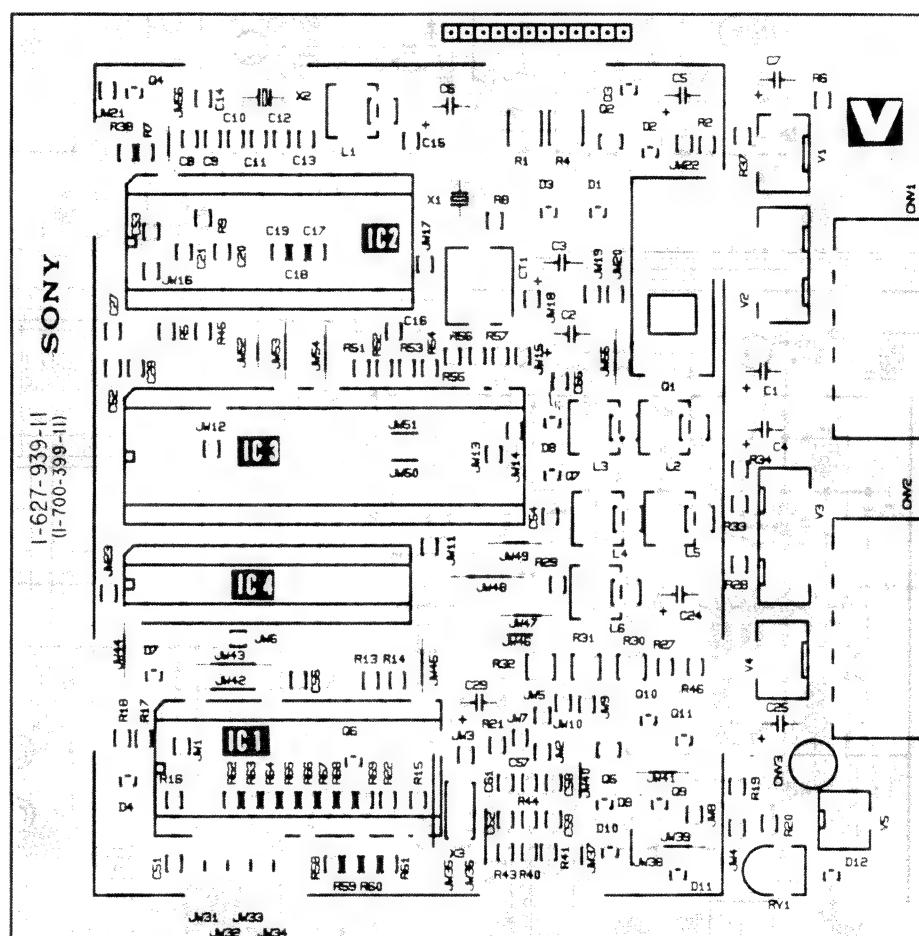




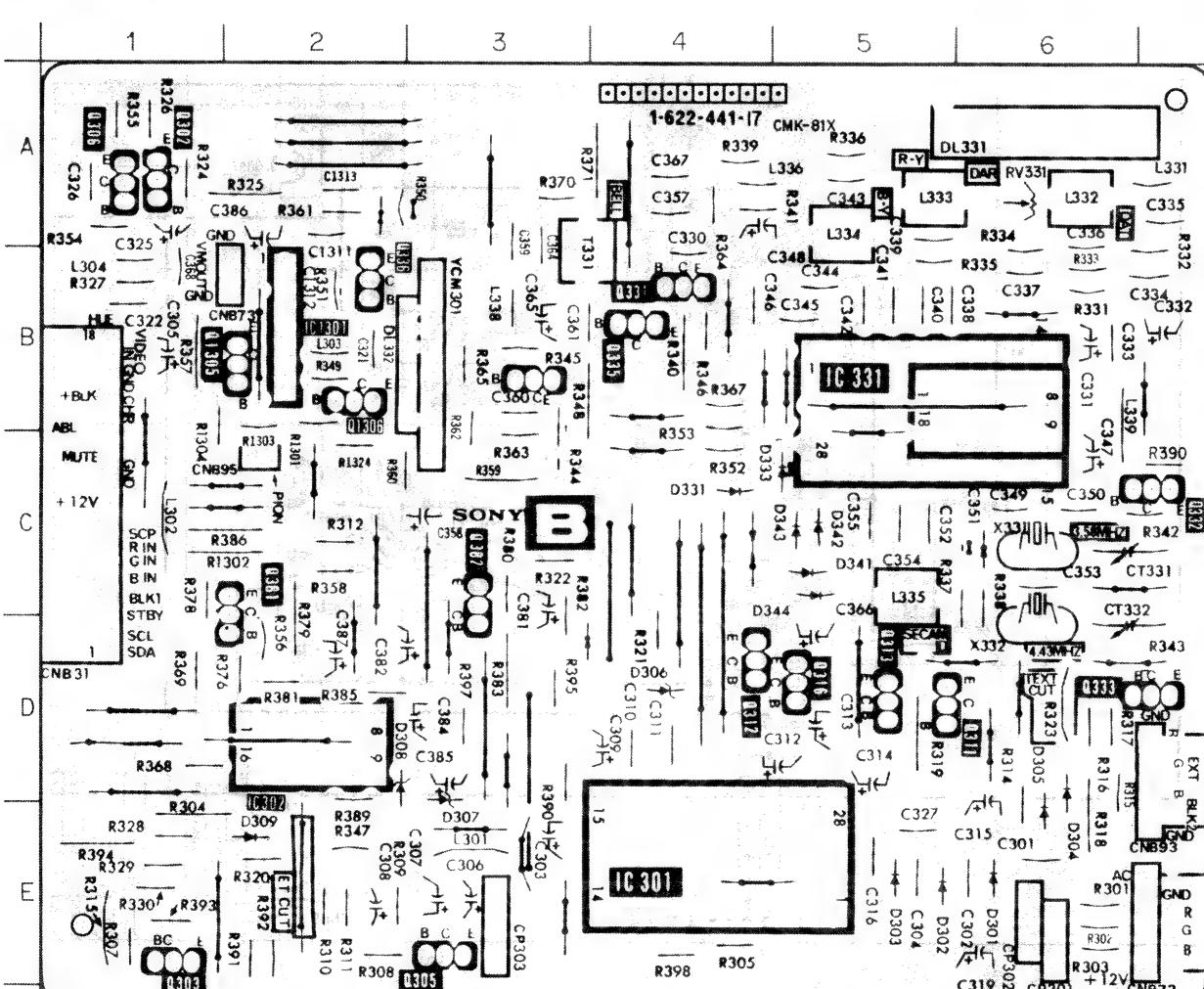
– F1 Board –



– V Board –

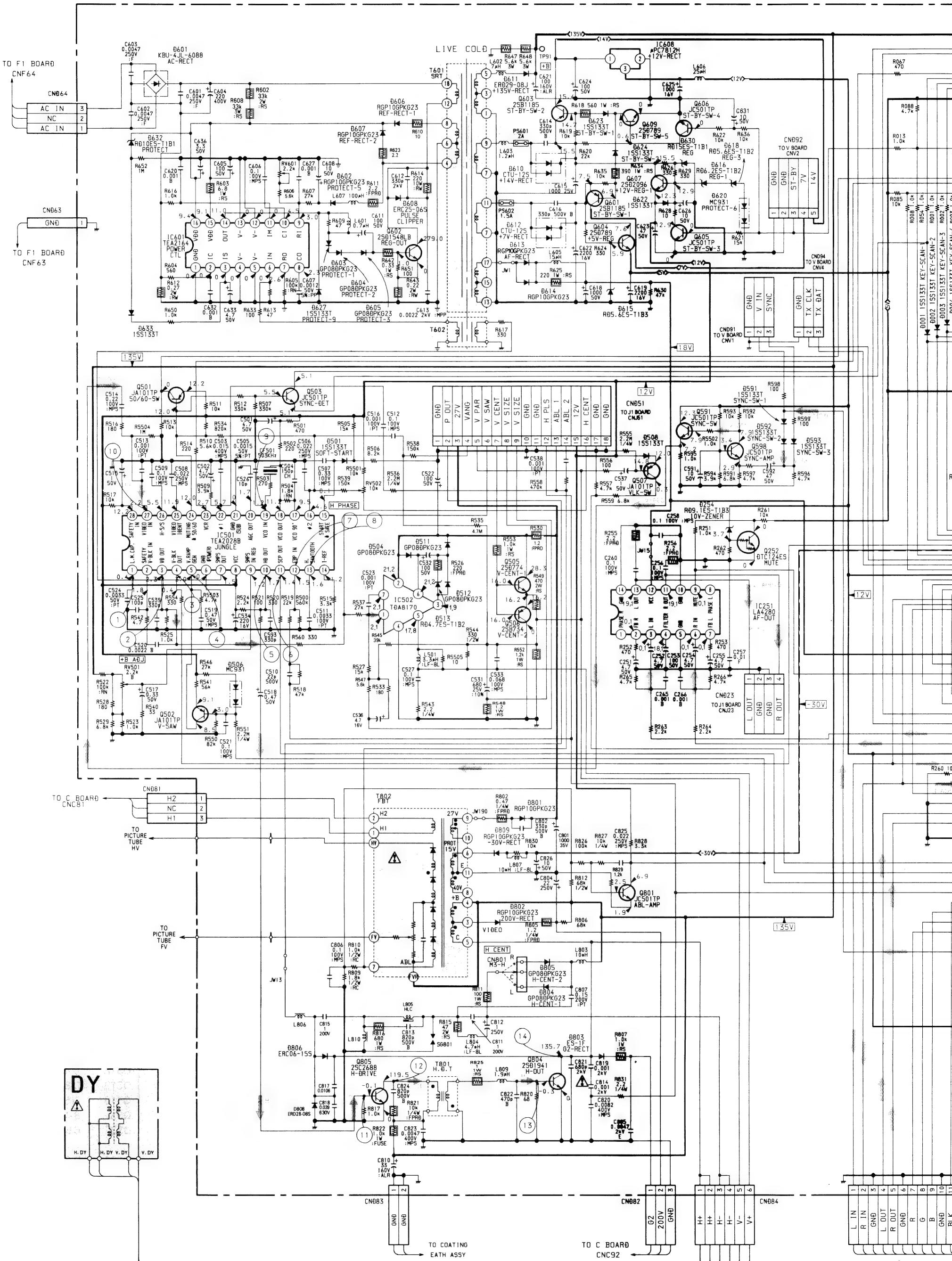


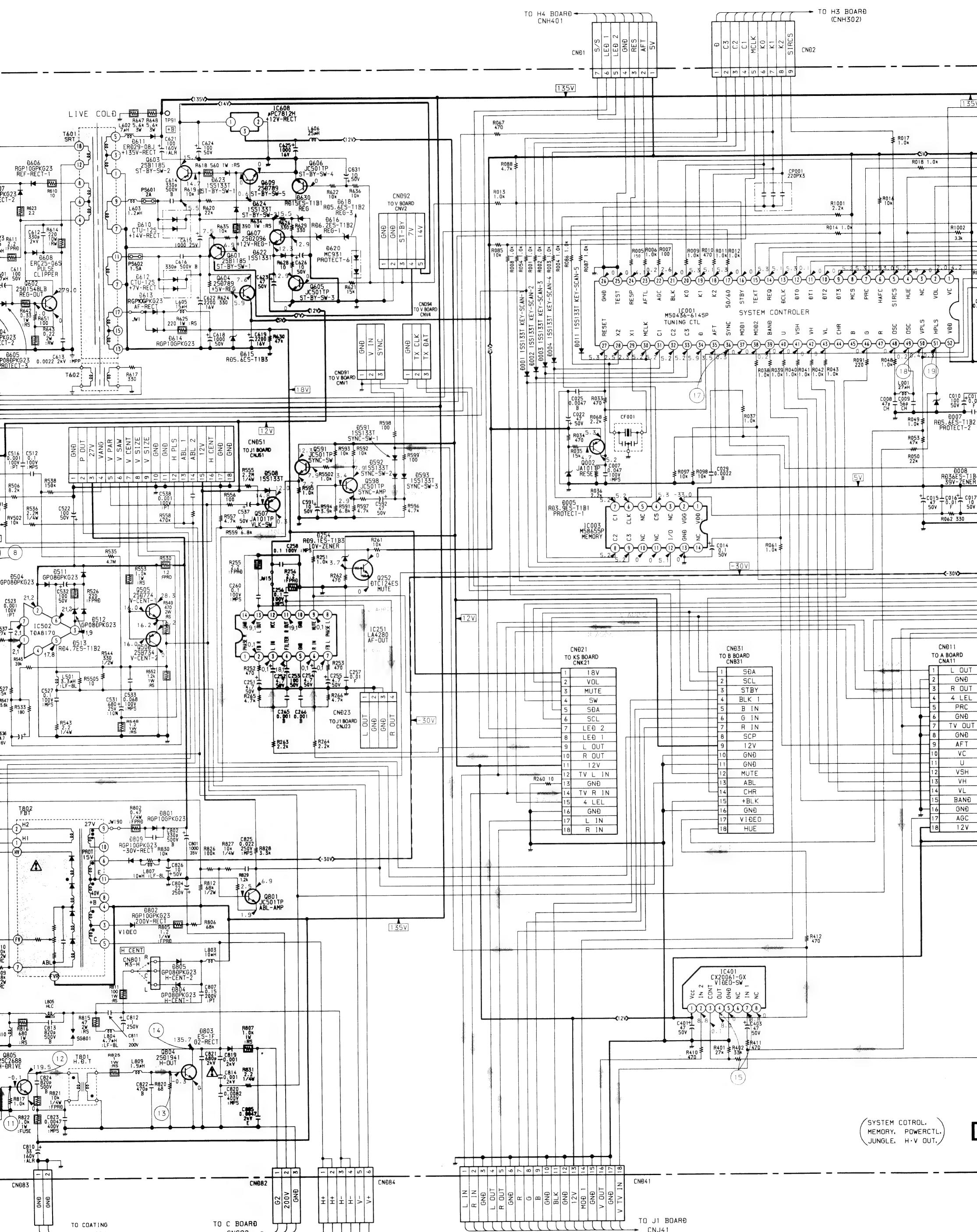
B Board



IC		DIODE	
IC301	E-4	D301	E-6
IC302	D-2	D302	E-5
IC331	B-5	D303	E-5
TRANSISTOR		D304	E-6
		D305	E-6
Q302	A-1	D307	E-3
Q303	E-1	D309	E-2
Q305	E-3	D331	C-4
Q306	A-1	D333	C-5
Q311	D-5	D341	C-5
Q312	D-4	VARIABLE RESISTOR	
Q313	D-5		
Q316	D-5	RV331	A-6
Q331	B-4	CT331	C-6
Q332	C-6	CT332	D-6
Q333	D-6		
Q334	B-3		
Q335	B-4		
Q336	B-2		
Q381	C-2		
Q382	C-3		
Q1316	B-2		

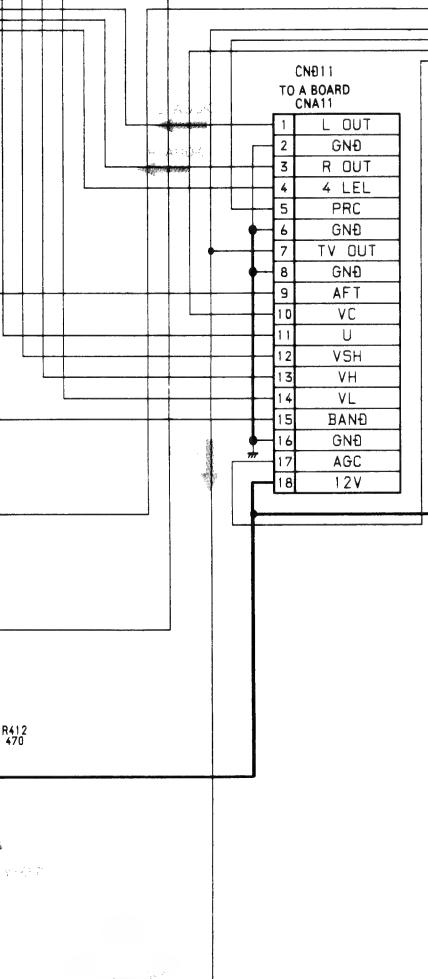
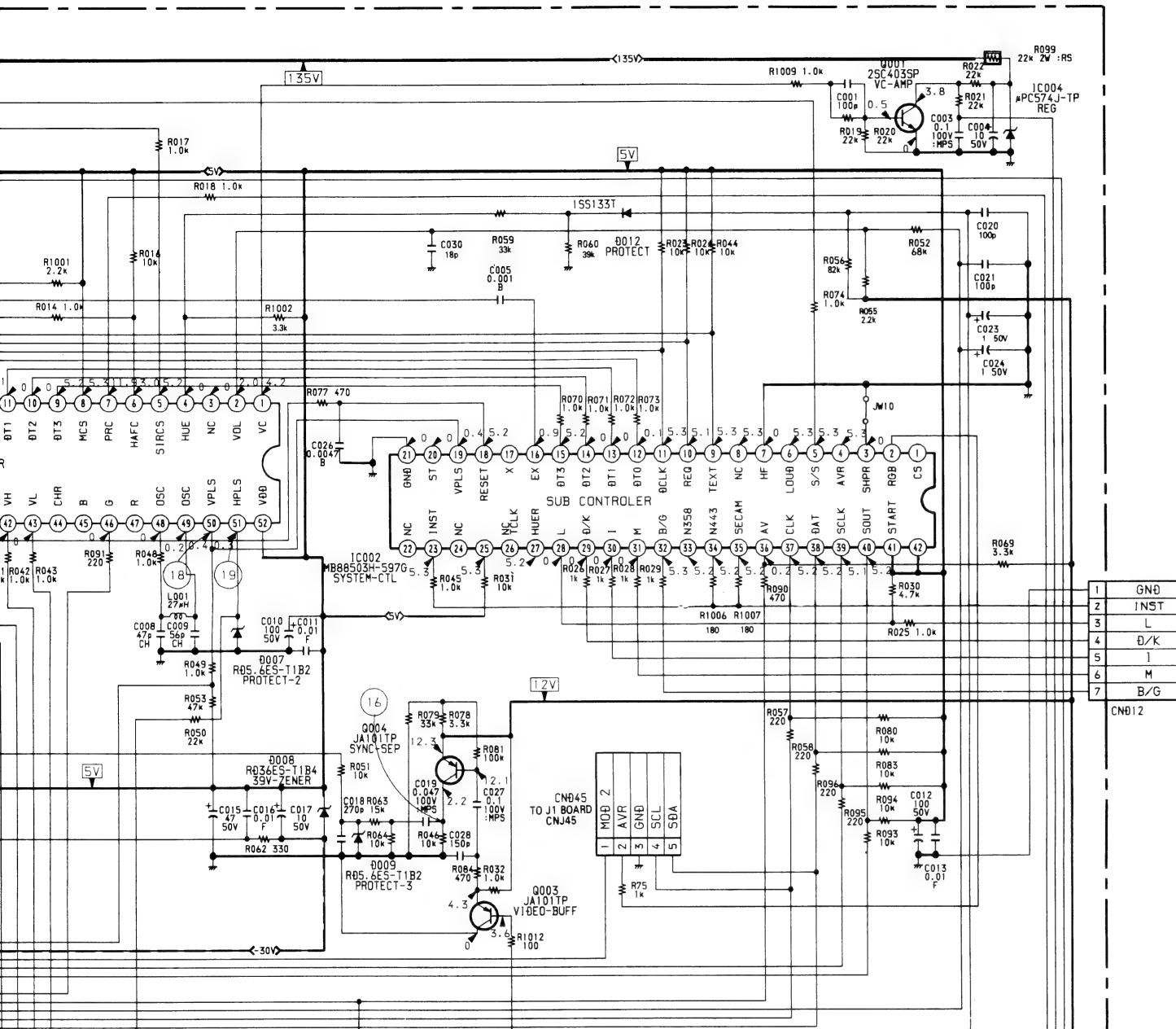
TO H4
CNH





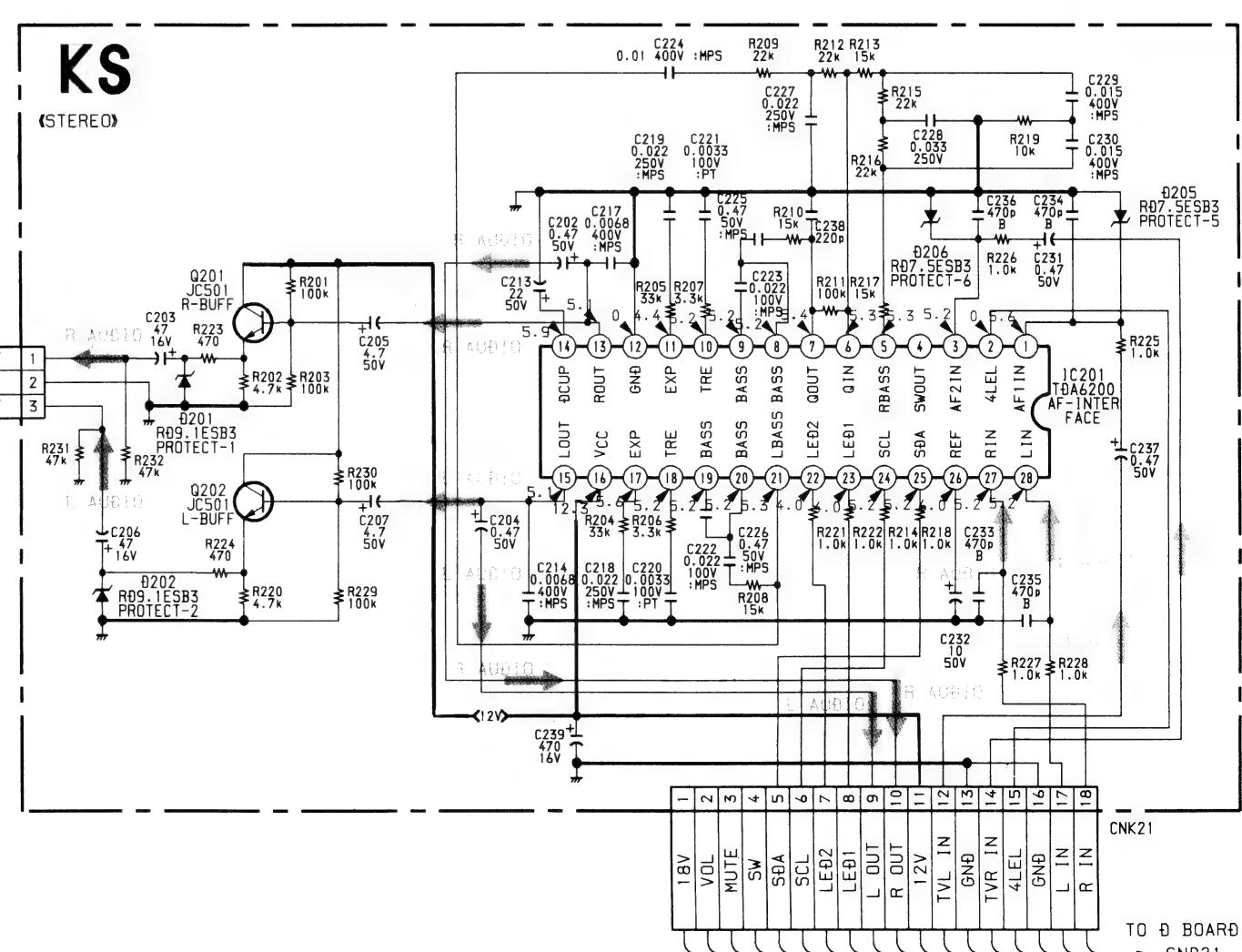
→ TO H3 BOARD
(CNH302)

N02



SYSTEM COTROL,
MEMORY, POWERCTL,
JUNGLE, H-V OUT,

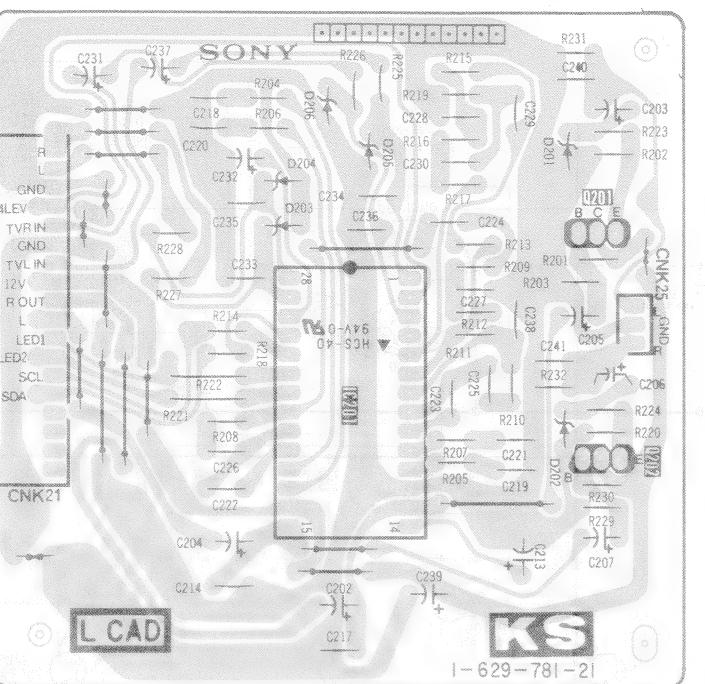
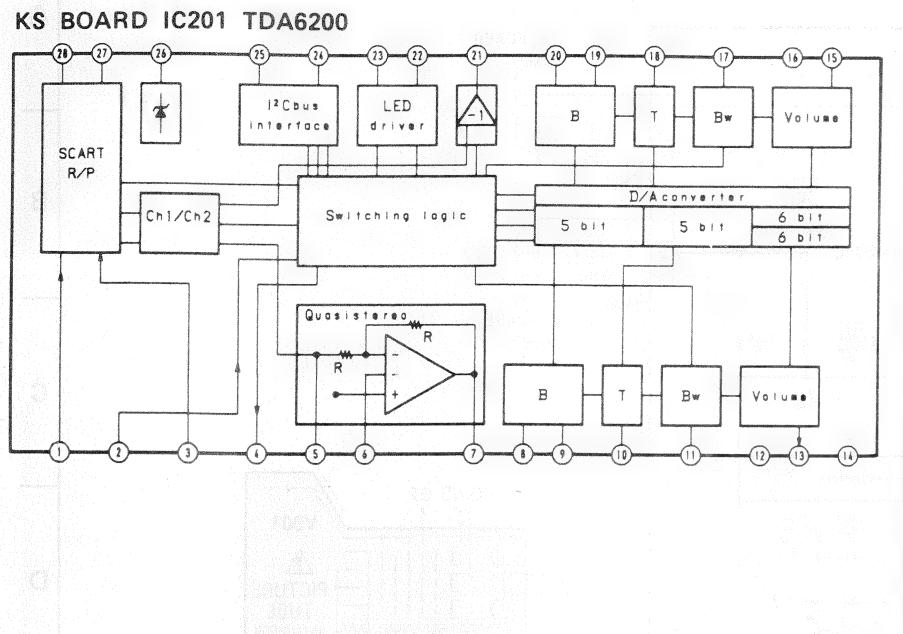
D



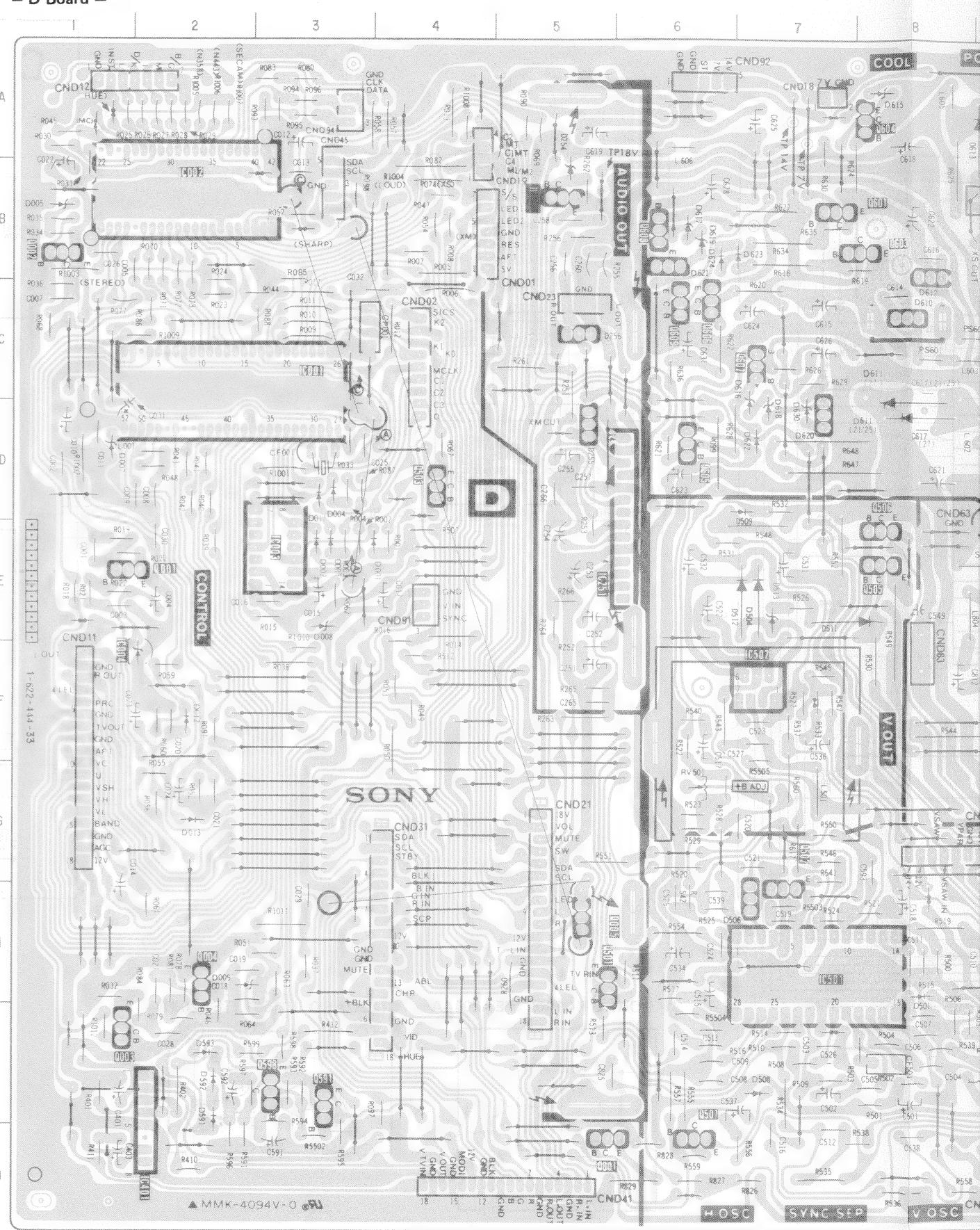
Ks [AF INTERFACE]

D [AF OUT, Y-CHROMA,
JUNGLE, V-H DEF]

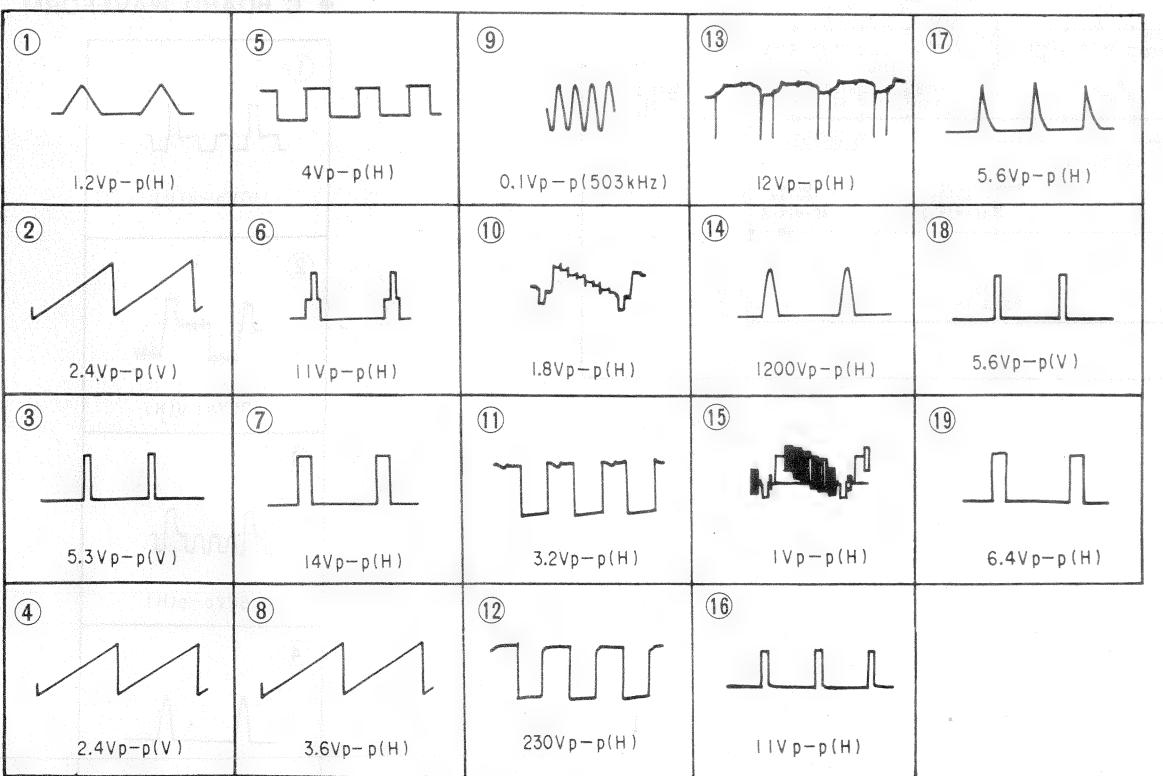
— KS Board —



— D Board —

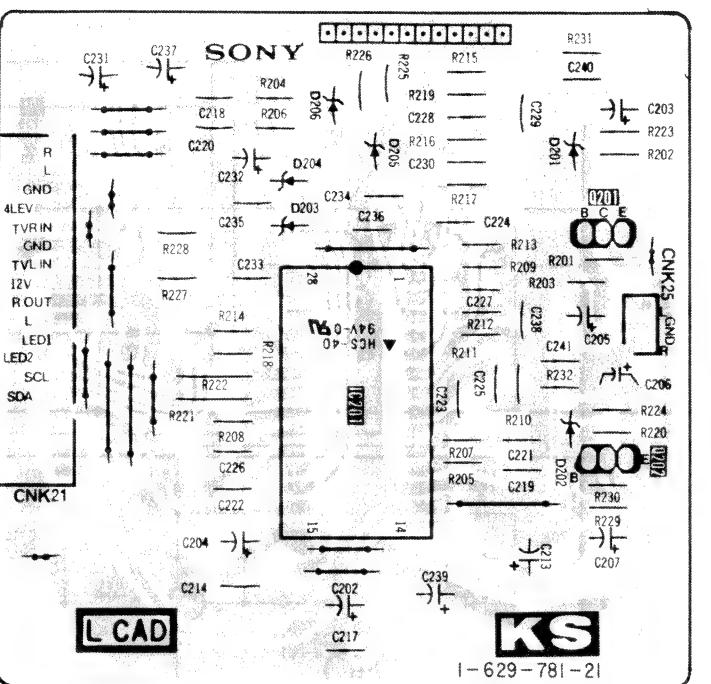
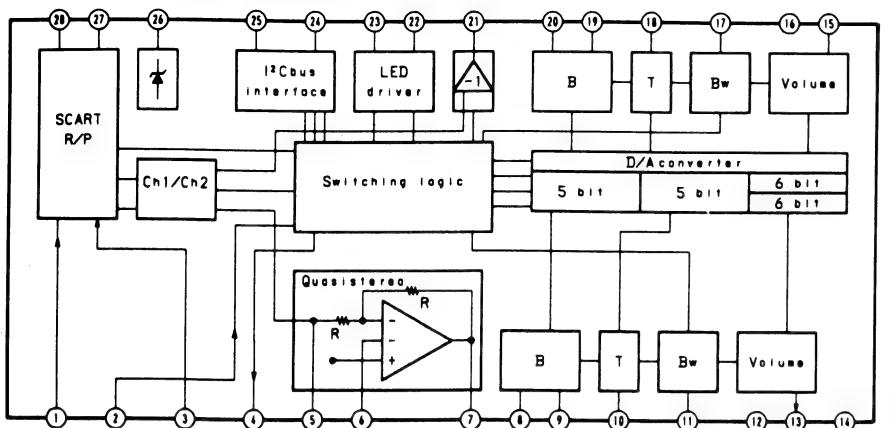
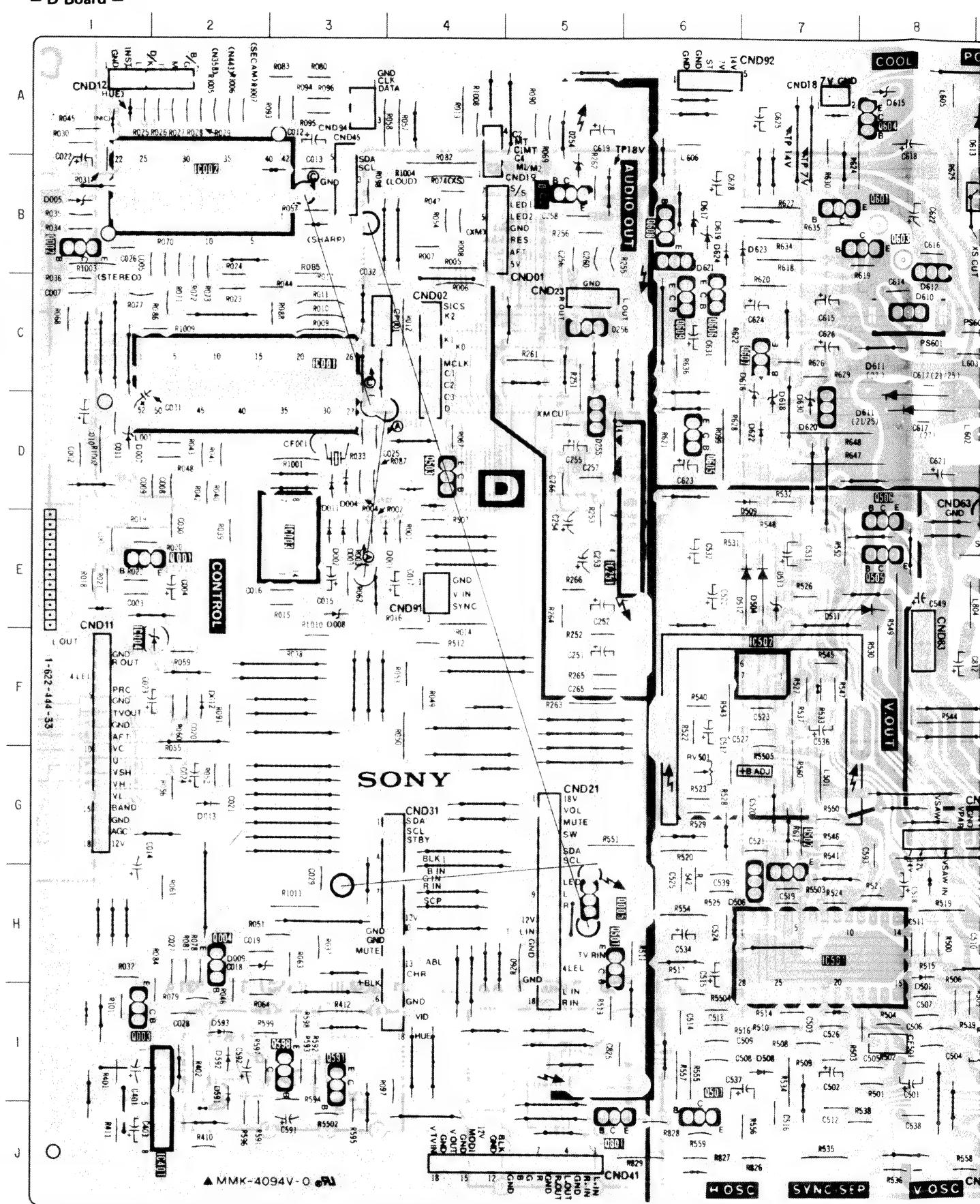
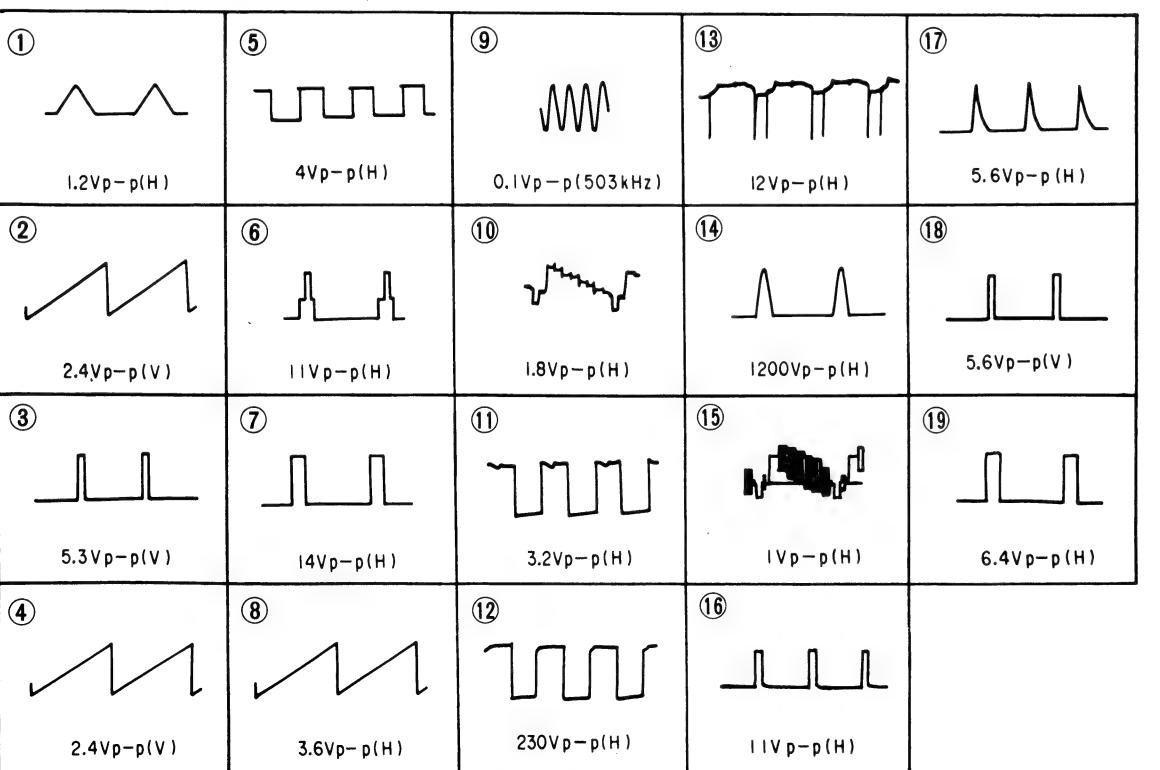


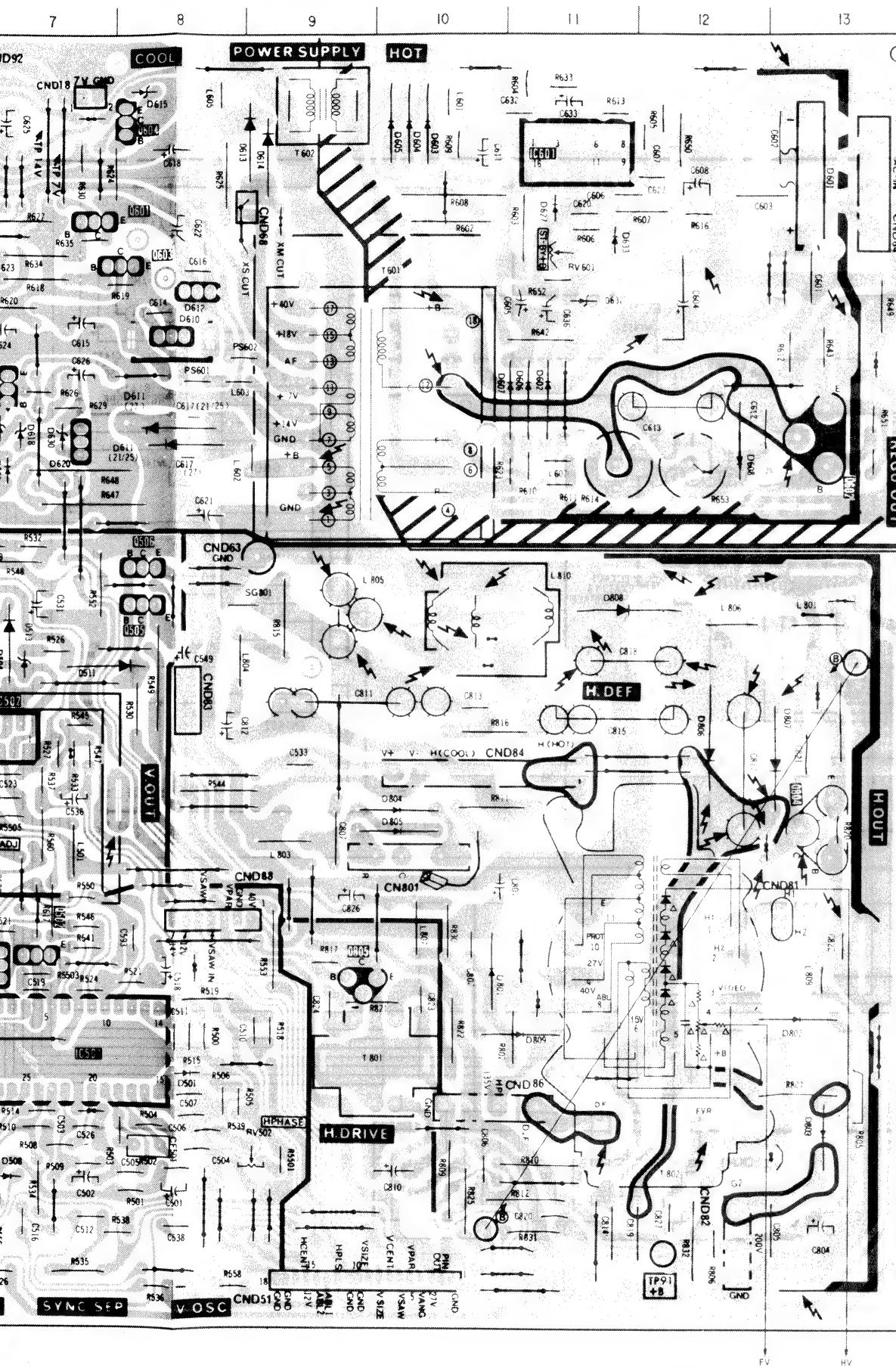
• D BOARD WAVEFORM



Ks

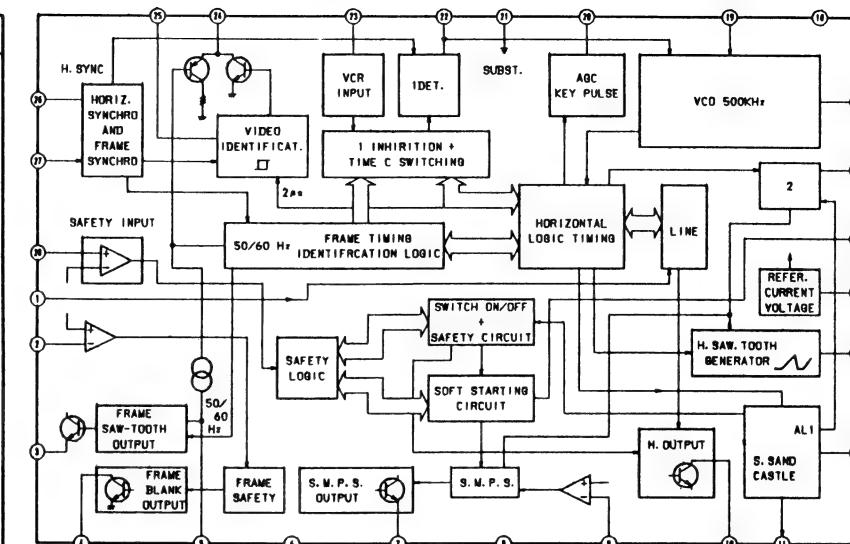
[AF INTERFACE]

- KS Board -**KS BOARD IC201 TDA6200****D**[AF OUT, Y-CHROMA,
JUNGLE, V-H DEF]**- D Board -****• D BOARD WAVEFORM**

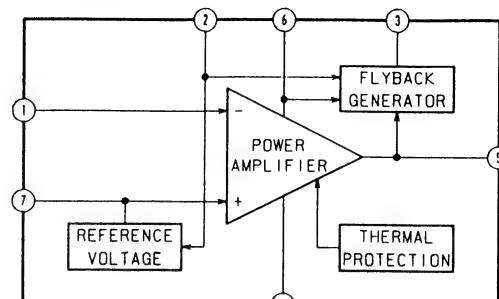


IC		DIODE	
IC001	D-3	D001	E-4
IC002	B-2	D002	E-3
IC003	E-3	D003	E-3
IC004	F-2	D004	D-3
IC251	E-6	D005	B-1
IC401	J-2	D007	D-1
IC501	H-7	D008	F-3
IC502	F-7	D009	I-3
IC601	B-11	D011	E-3
TRANSISTOR		D012	F-2
		D013	G-2
Q001	E-2	D254	B-5
Q002	B-1	D501	I-8
Q003	I-2	D504	E-7
Q004	H-2	D506	H-7
Q252	B-6	D508	I-7
Q501	H-6	D511	F-8
Q502	H-7	D512	E-7
Q503	D-4	D513	E-7
Q505	E-8	D591	J-2
Q506	E-8	D592	I-2
Q507	J-6	D593	I-2
Q591	I-3	D601	B-13
Q598	I-3	D602	C-11
Q601	B-8	D603	A-10
Q602	D-13	D604	A-10
Q603	B-8	D605	A-10
Q604	A-8	D606	C-11
Q605	D-6	D607	C-11
Q606	C-6	D608	D-11
Q607	C-7	D610	C-8
Q608	B-6	D611	D-8
Q609	C-6	D612	C-8
Q801	J-6	D613	A-9
Q804	G-13	D614	B-9
Q805	H-10	D615	A-8
		D616	D-7
		D617	B-6
		D618	D-7
		D619	B-6
		D620	D-8
		D621	C-6
		D622	D-7
		D623	C-7
		D624	C-7
		D627	B-11
		D630	D-7
		D632	C-11
		D633	C-11
		D801	H-11
		D802	H-11
		D803	I-13
		D804	G-10
		D805	G-10
		D806	F-12
		D808	E-12
		D809	H-11
VARIABLE RESISTOR			
RV501		G-6	
RV502		I-9	
RV601		B-11	

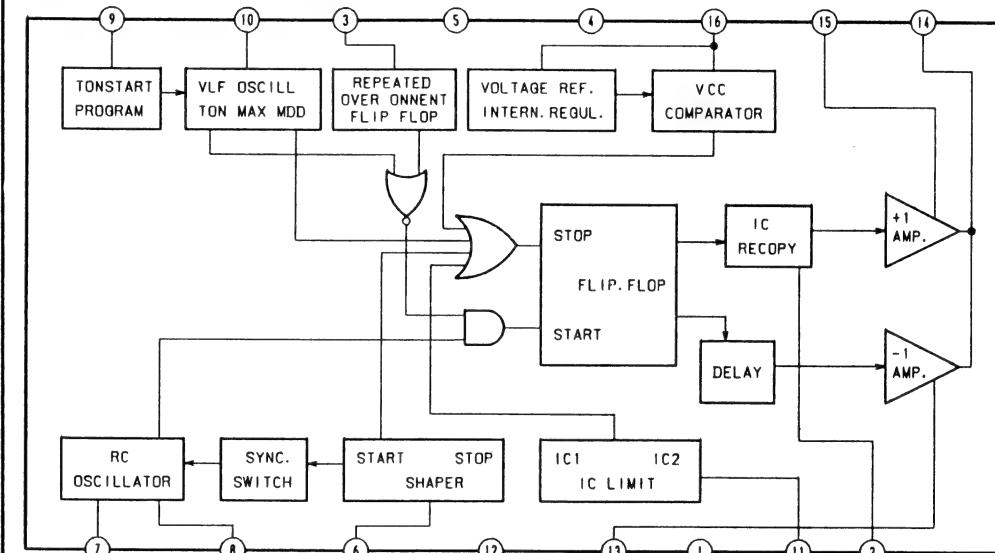
D BOARD IC501 TEA2028A



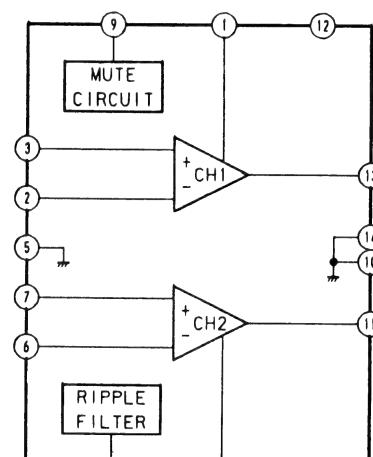
D BOARD IC502 TDA8170



D BOARD IC601 TEA2164

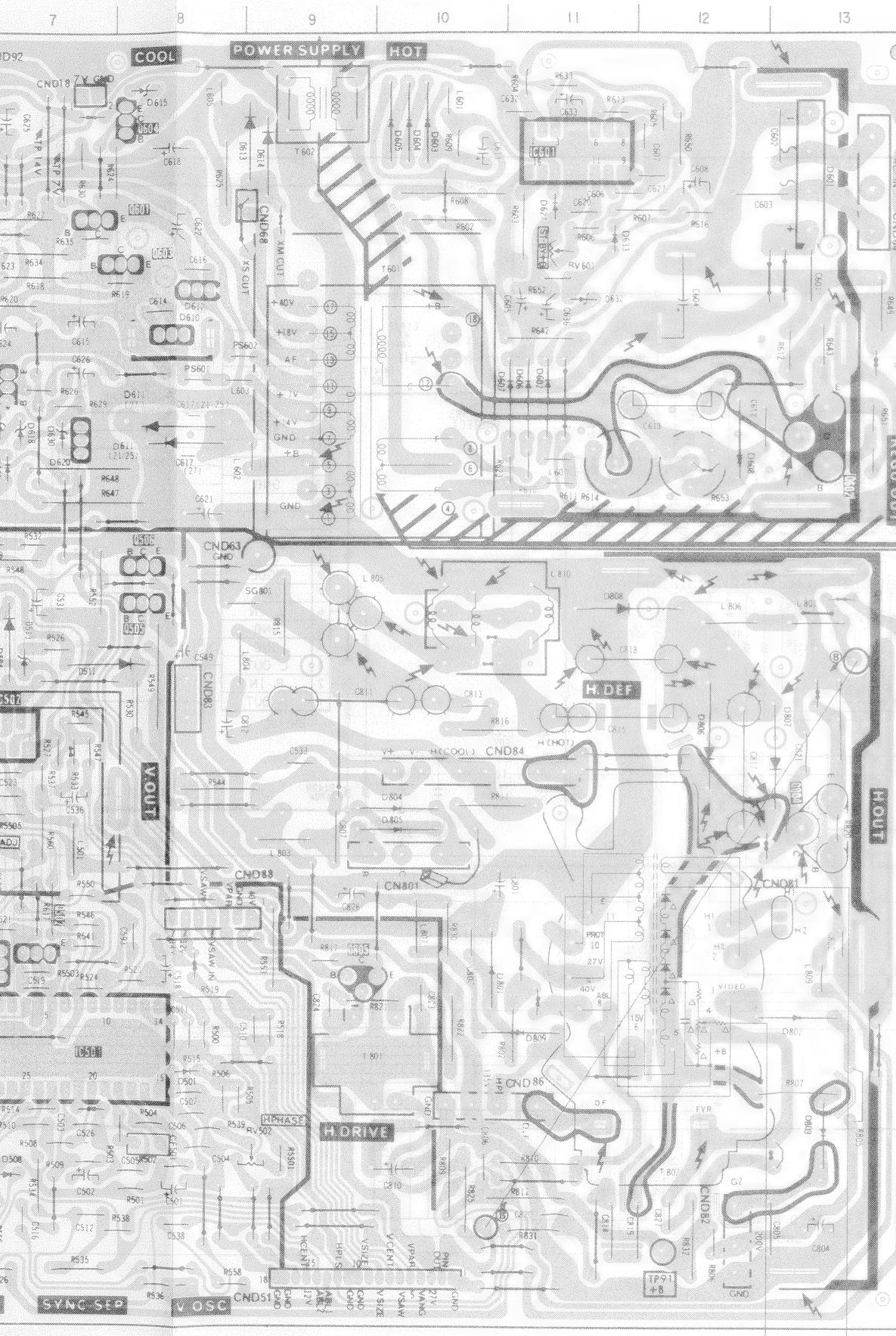


D BOARD IC251 LA4280



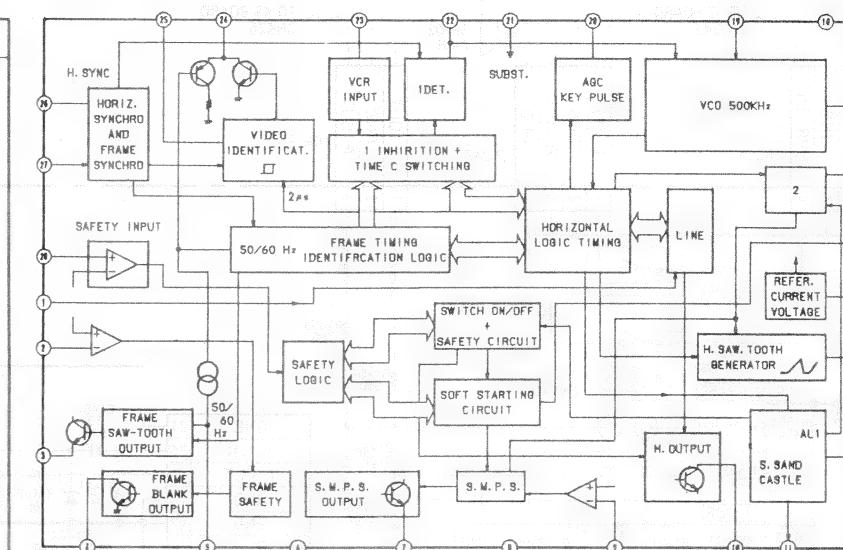
NOT

NOTE: The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

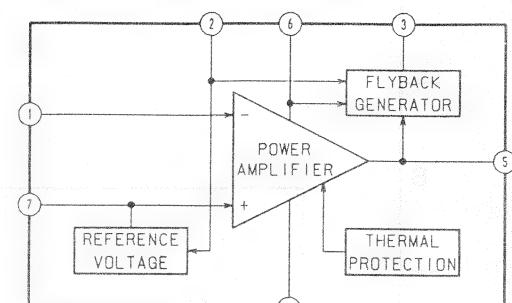


IC		DIODE	
IC001	D-3	D001	E-4
IC002	B-2	D002	E-3
IC003	E-3	D003	E-3
IC004	F-2	D004	D-3
IC251	E-6	D005	B-1
IC401	J-2	D007	D-1
IC501	H-7	D008	F-3
IC502	F-7	D009	I-3
IC601	B-11	D011	E-3
		D012	F-2
		D013	G-2
TRANSISTOR			
Q001	E-2	D254	B-5
Q002	B-1	D501	I-8
Q003	I-2	D504	E-7
Q004	H-2	D506	H-7
Q252	B-6	D508	I-7
		D511	F-8
Q501	H-6	D512	E-7
Q502	H-7	D513	E-7
Q503	D-4	D591	J-2
Q505	E-8	D592	I-2
Q506	E-8	D593	I-2
Q507	J-6	D601	B-13
Q591	I-3	D602	C-11
Q598	I-3	D603	A-10
Q601	B-8	D604	A-10
Q602	D-13	D605	A-10
Q603	B-8	D606	C-11
Q604	A-8	D607	C-11
Q605	D-6	D608	D-11
Q606	C-6	D610	C-8
Q607	C-7	D611	D-8
Q608	B-6	D612	C-8
Q609	C-6	D613	A-9
Q801	J-6	D614	B-9
Q804	G-13	D615	A-8
Q805	H-10	D616	D-7
		D617	B-6
		D618	D-7
		D619	B-6
		D620	D-8
		D621	C-6
		D622	D-7
		D623	C-7
		D624	C-7
		D627	B-11
		D630	D-7
		D632	C-11
		D633	C-11
		D801	H-11
		D802	H-13
		D803	I-13
		D804	G-10
		D805	G-10
		D806	F-12
		D808	E-12
		D809	H-11
VARIABLE RESISTOR			
RV501		G-6	
RV502		I-9	
RV601		B-11	

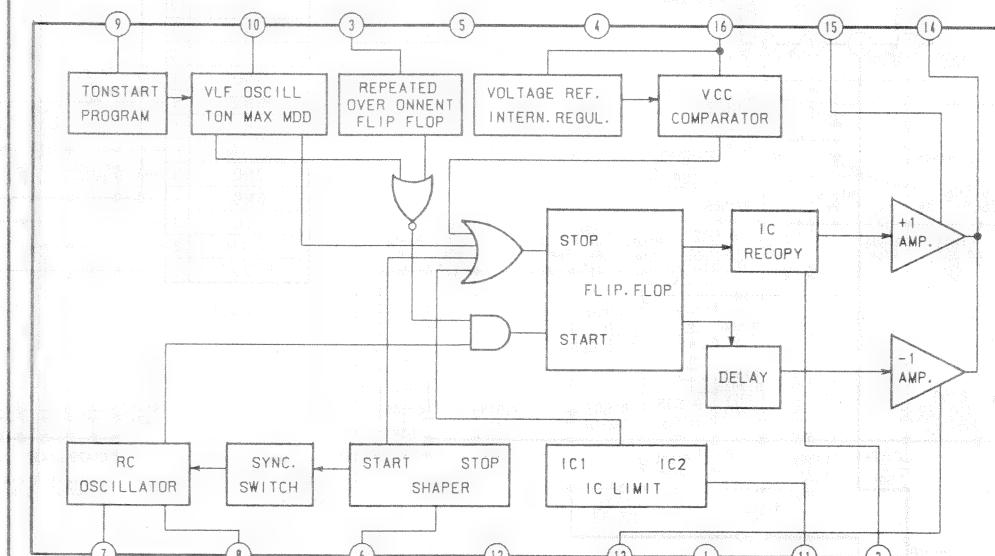
D BOARD IC501 TEA2028



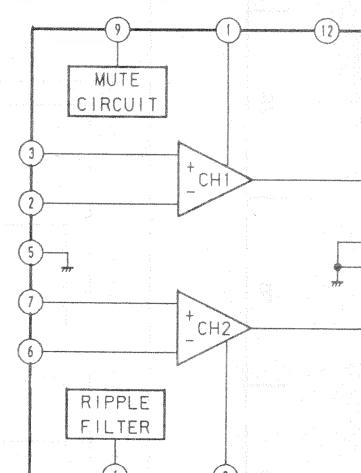
D BOARD IC502 TDA8170



D BOARD IC601 TEA216

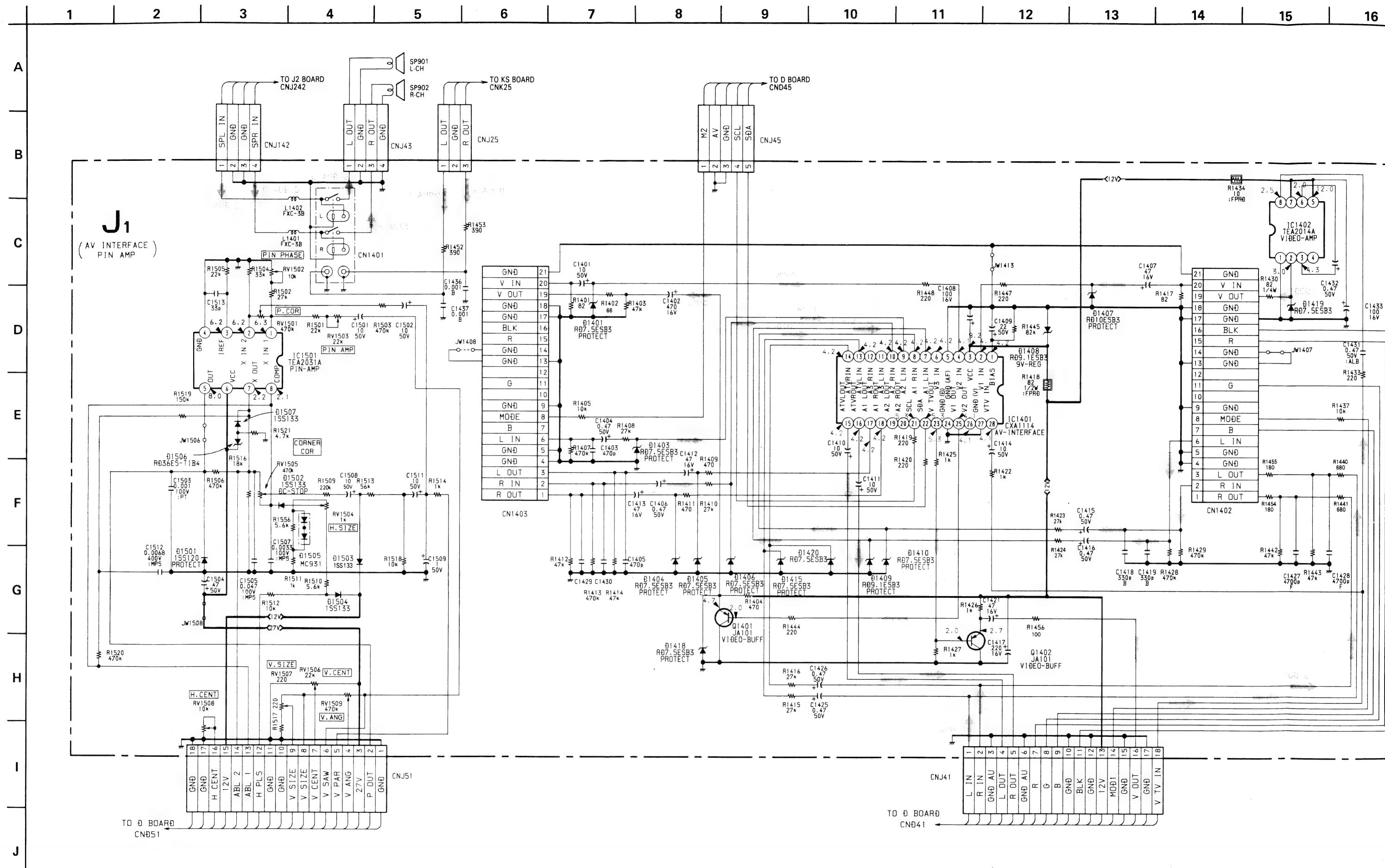


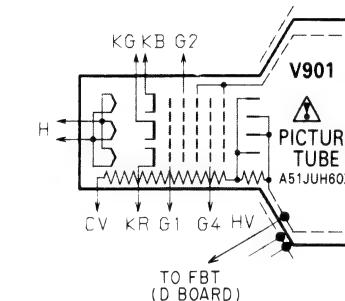
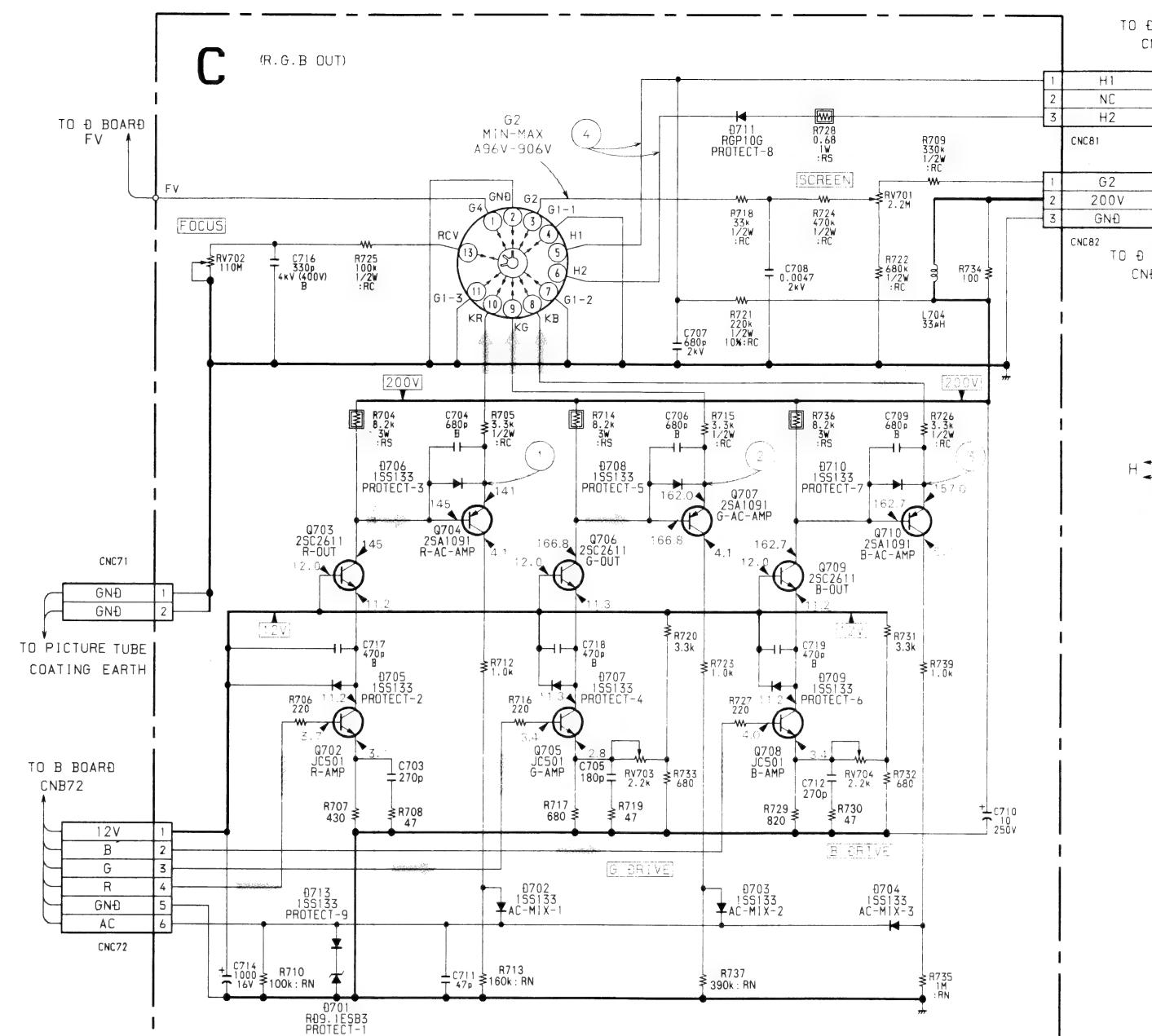
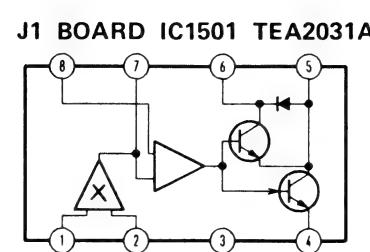
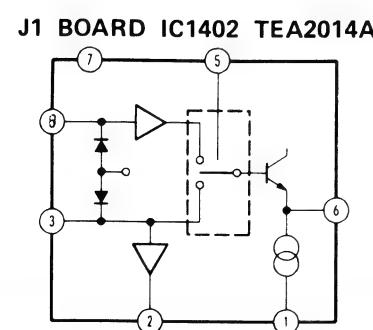
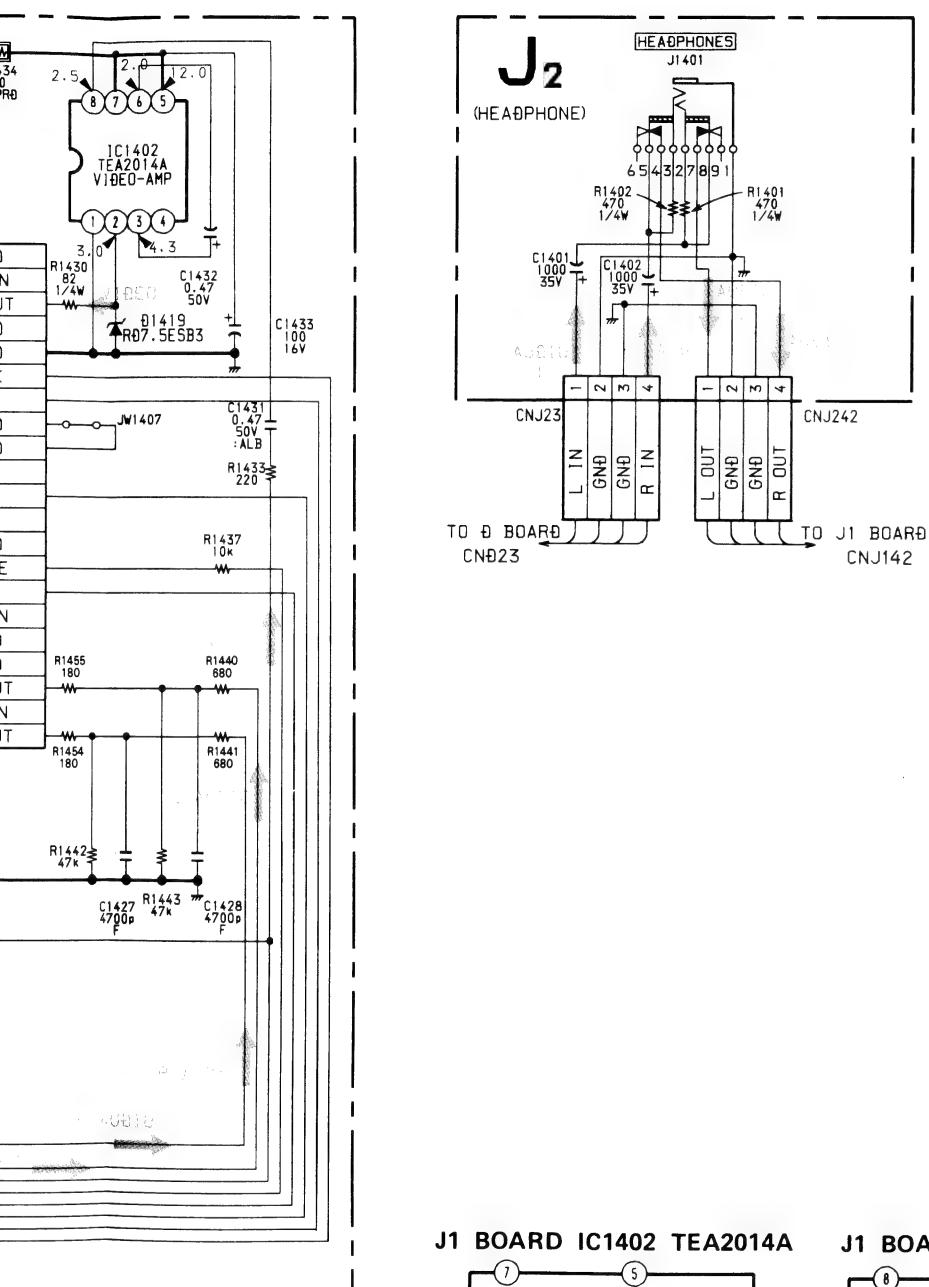
D BOARD IC251 LA4280



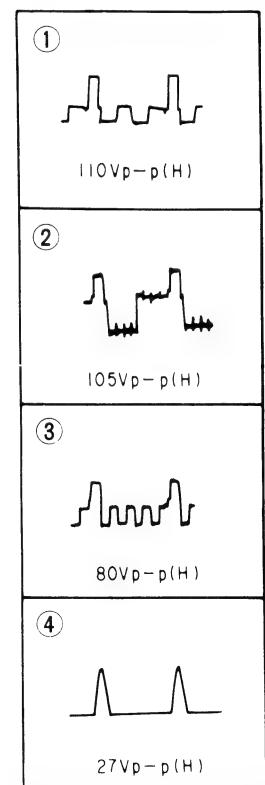
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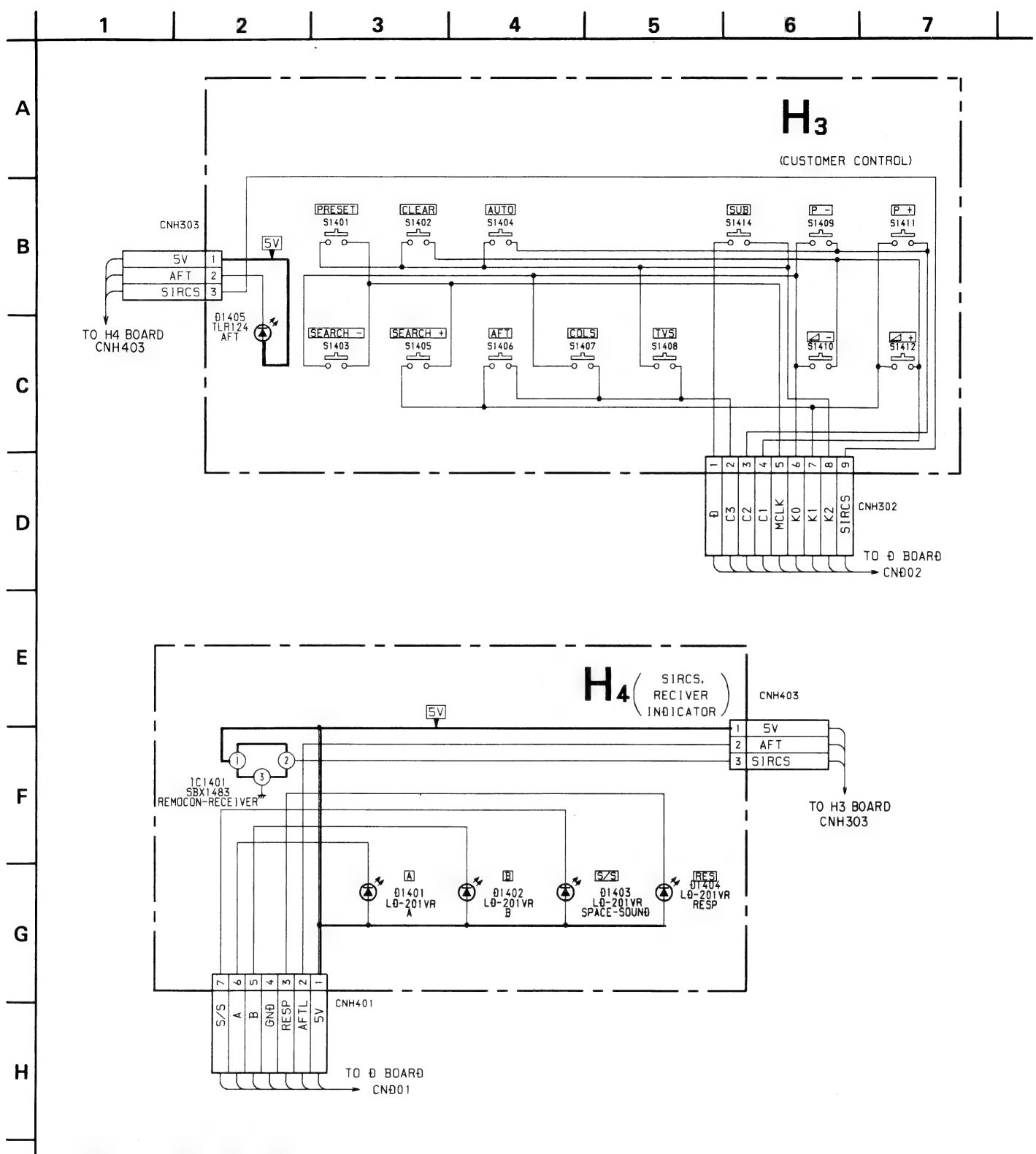
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.





- C BOARD WAVEFORM





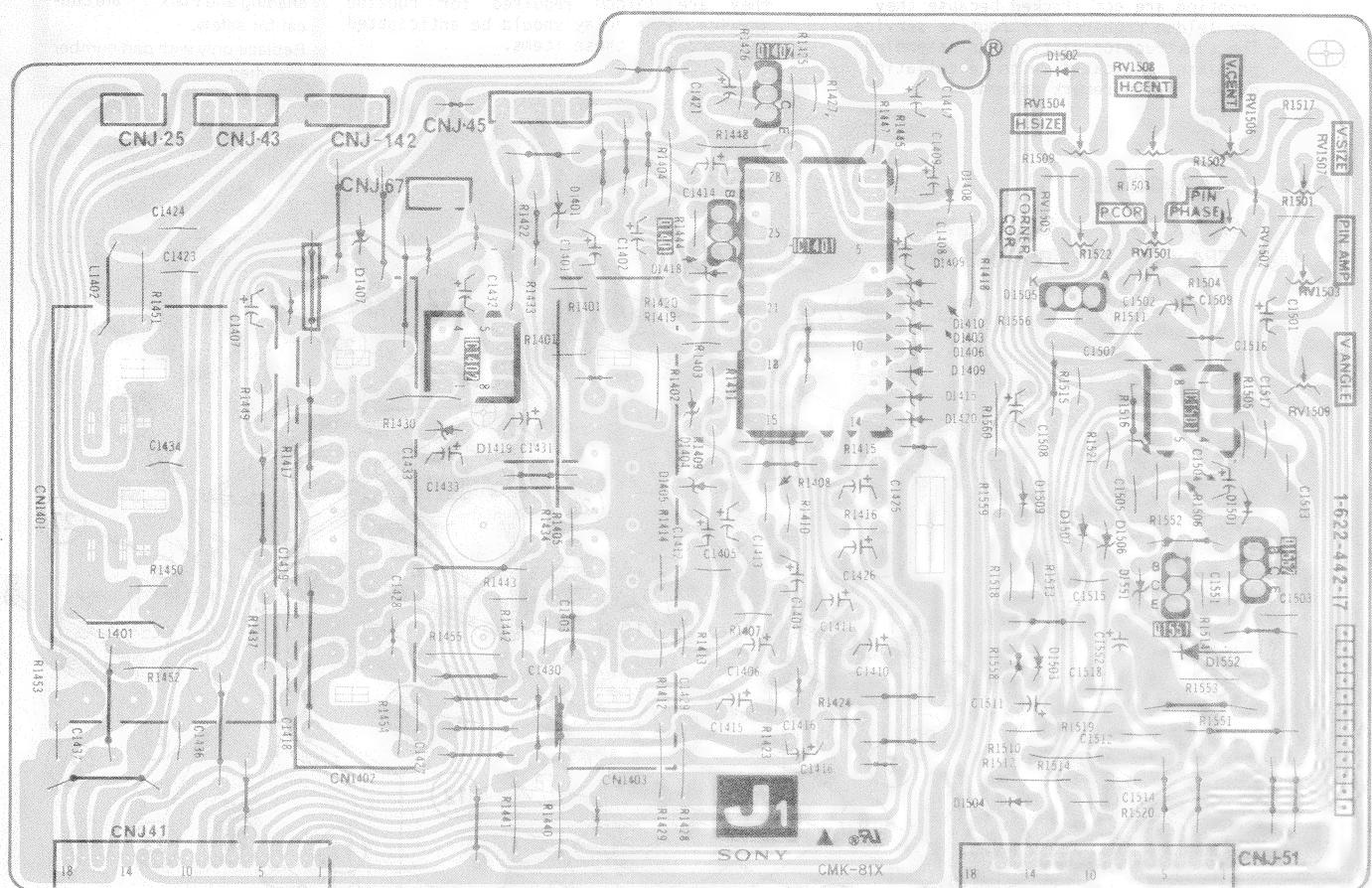
J 1

[INTERFACE]

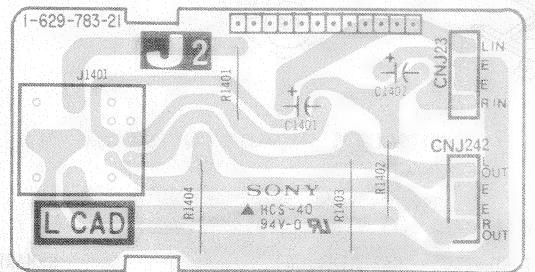
J2

[HEADPHONE JACK]

— J1 Board —



— J2 Board —



C

[R·G·B OUT]

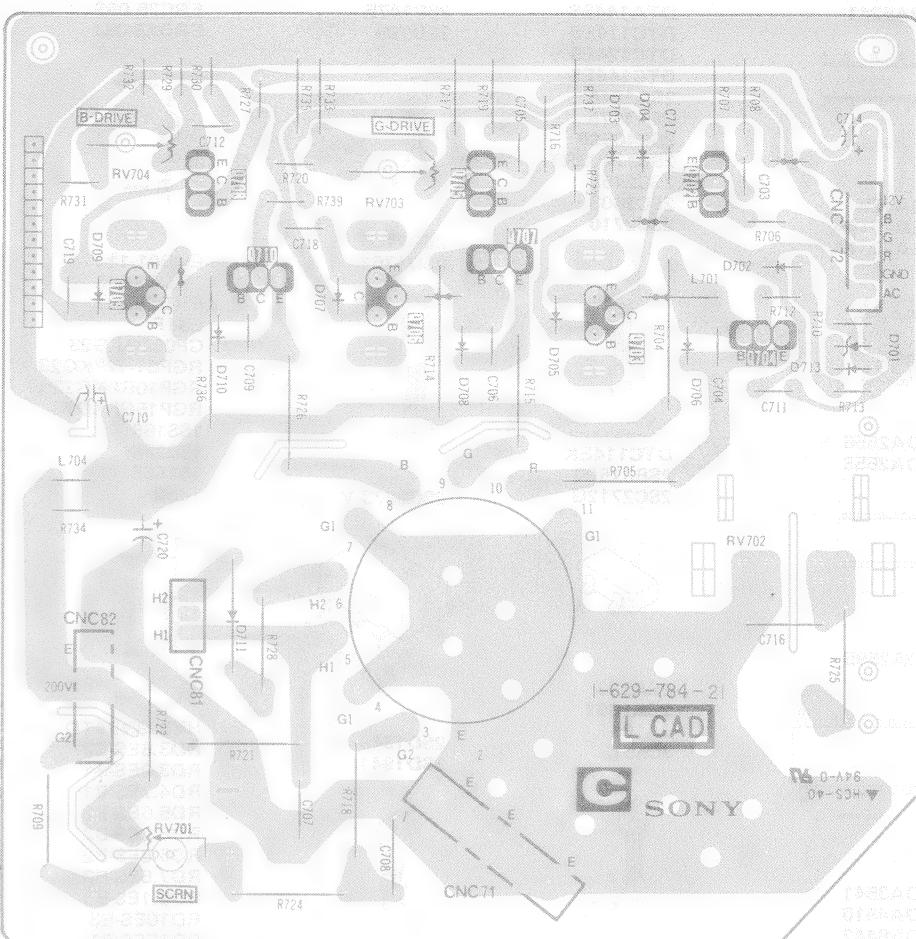
Н3

CUSTOMER
CONTROL

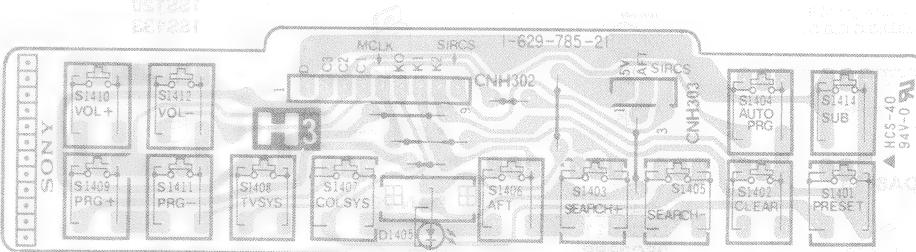
H4

[REMOCON RECEIVER]

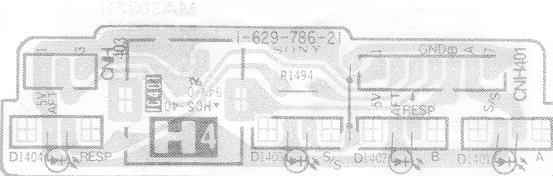
— C Board —



— H3 Board —



– H4 Board –



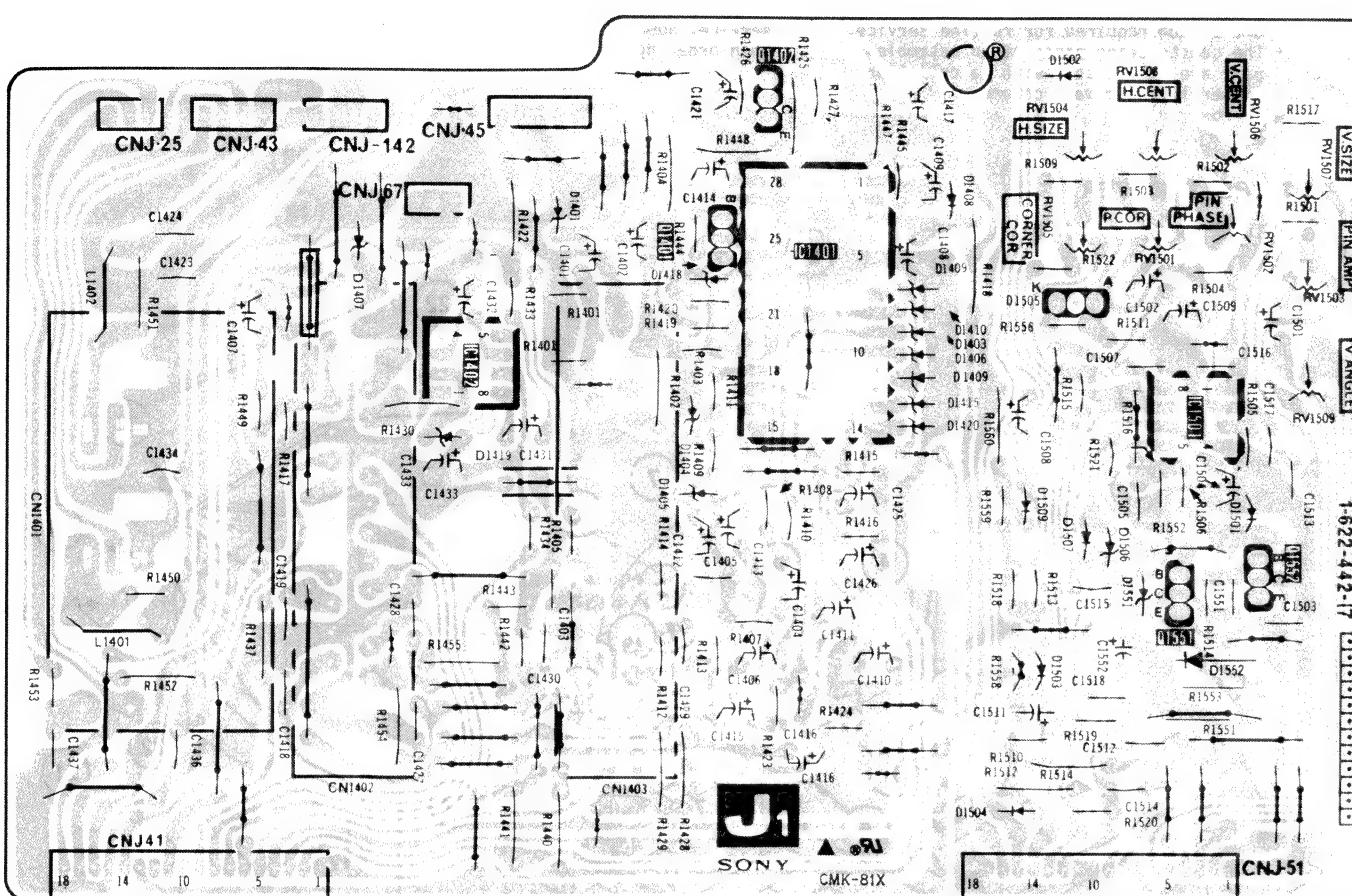
J 1

[INTERFACE]

J2

[HEADPHONE JACK]

= J1 Board =



[B.G.B]

[R·G·B OUT]

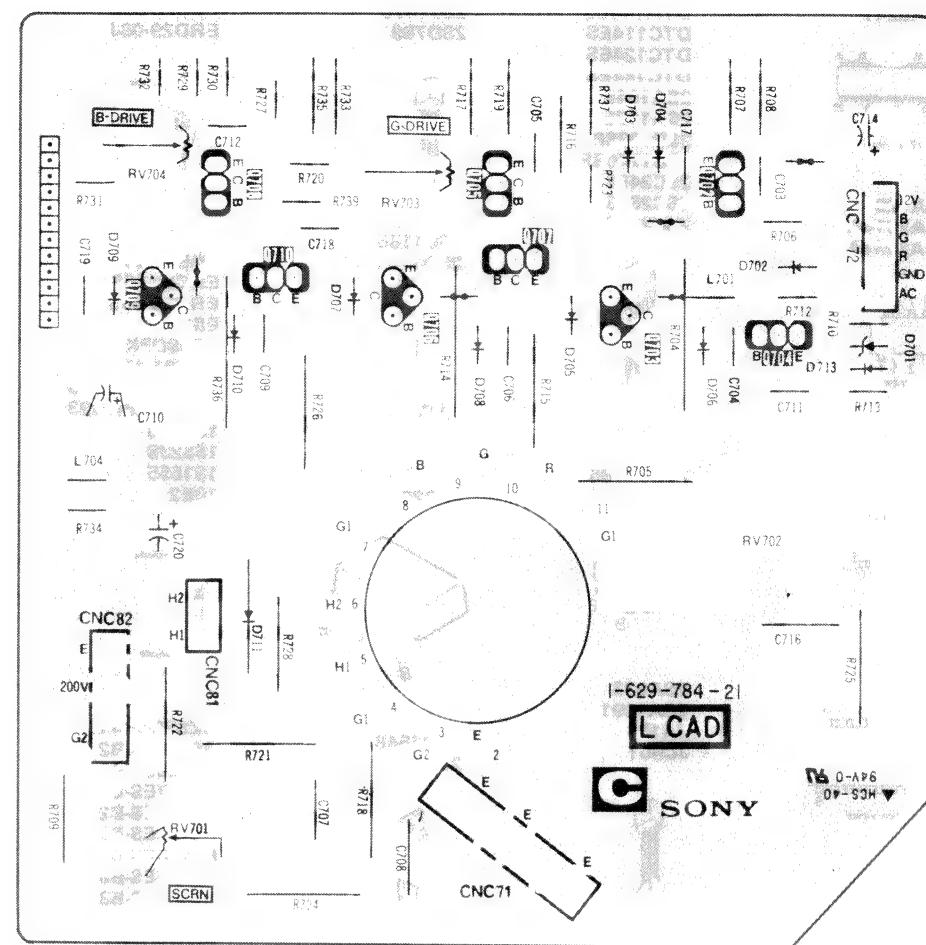
Н3

CUSTOMER
CONTROL

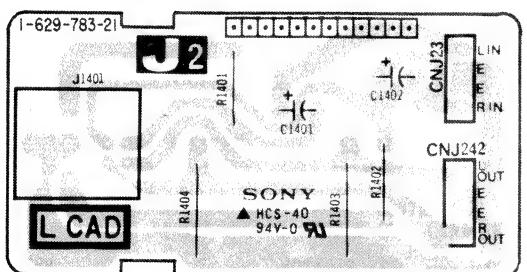
H₄

[REMOCON RECEIVER]

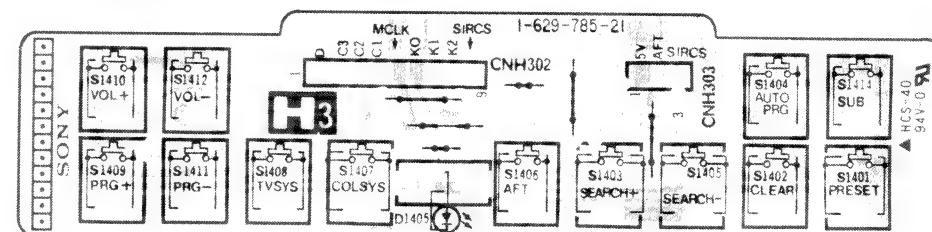
– C Board –



– J2 Board –

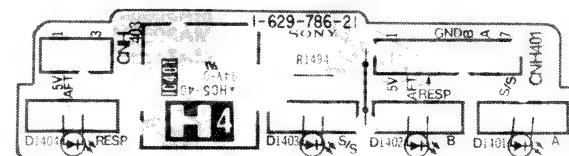


– H3 Board



—44—

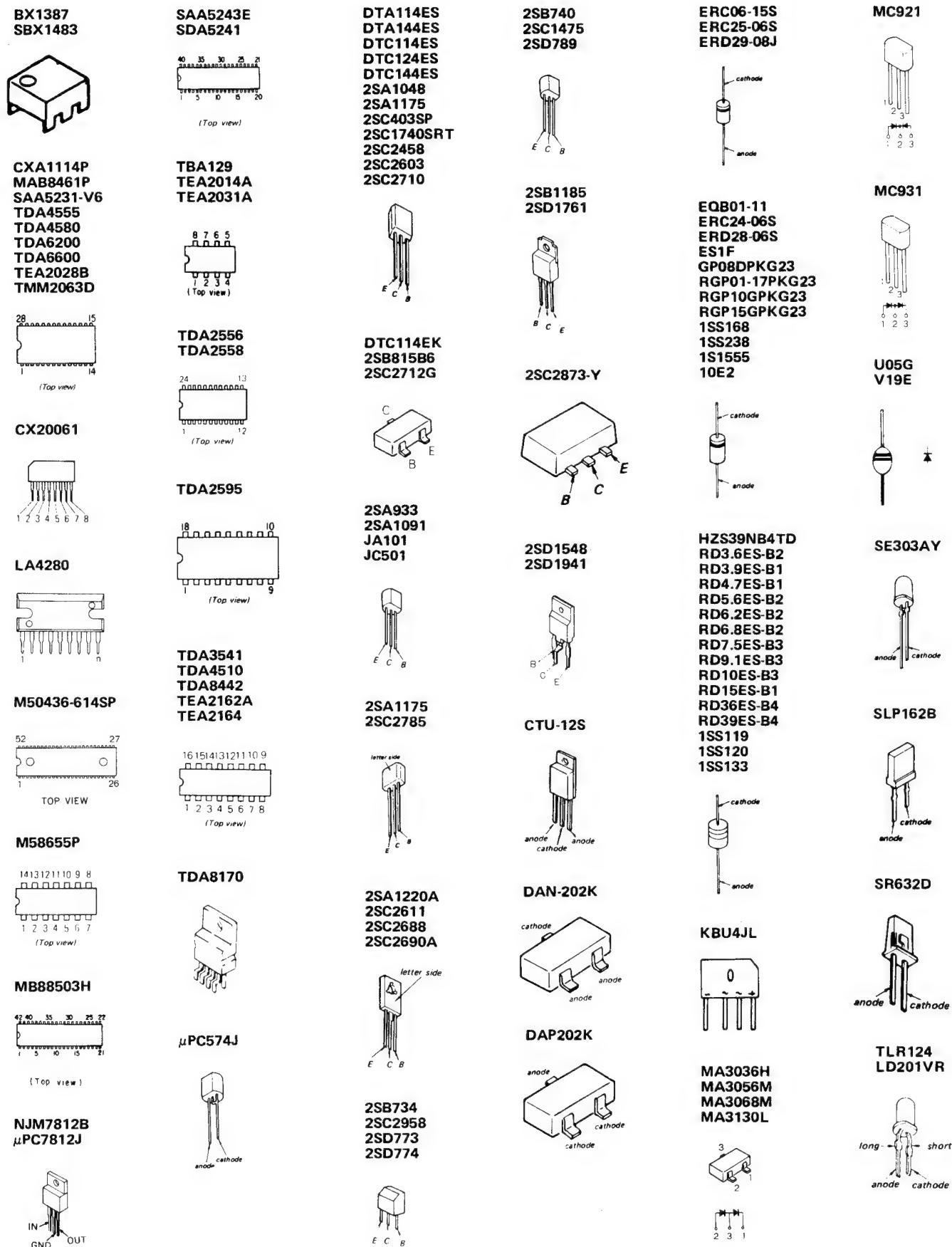
– H4 Board



—45—

SECTION 6 EXPLODED VIEWS

5-5. SEMICONDUCTORS



NOTE:
 • Items with no part number and no description are not stocked because they are seldom required for routine service.
 • The construction parts of an assembled part are indicated with a callout number in the remark column.

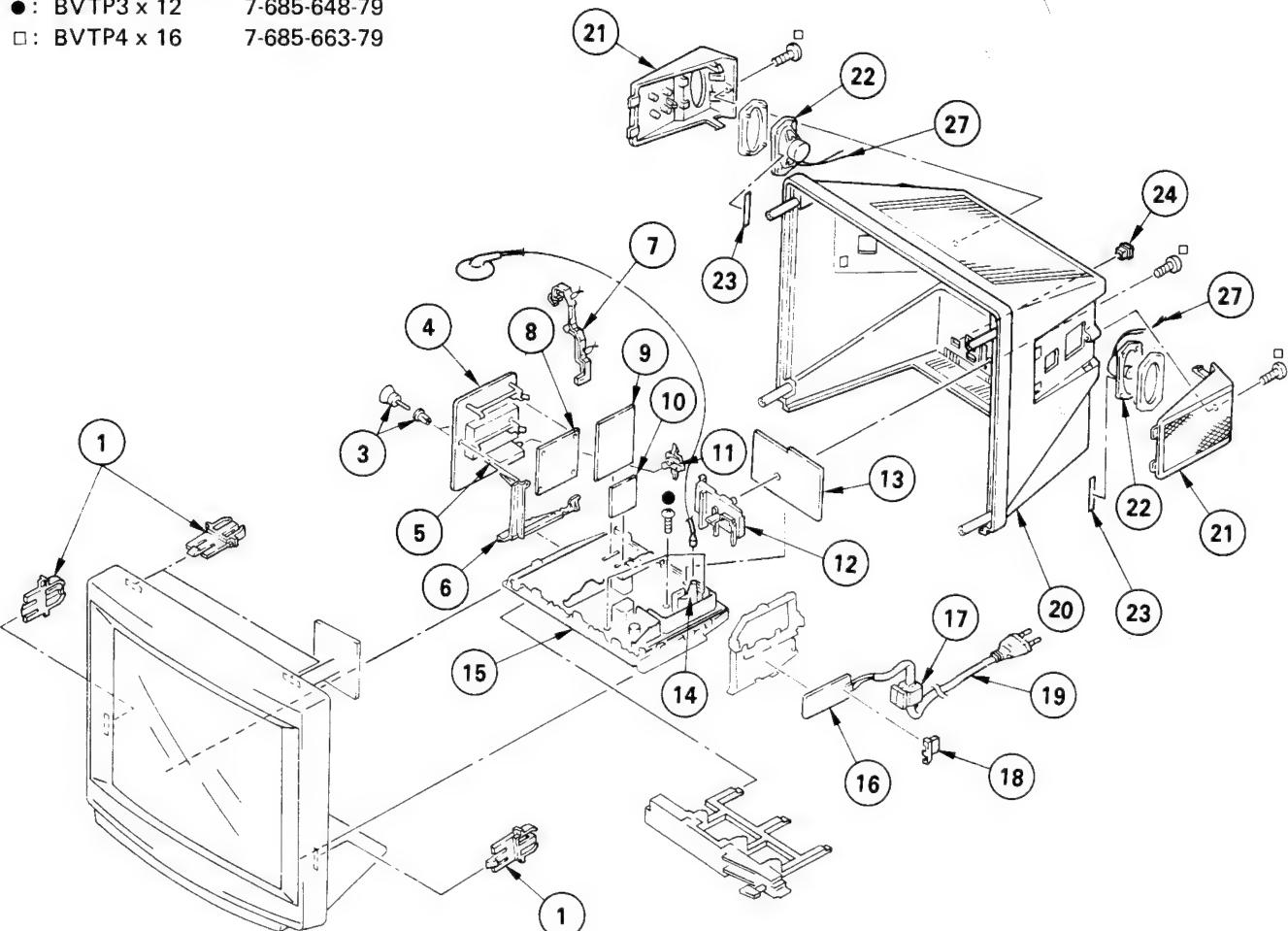
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

6-2. PIC

6-1. REAR COVER

- : BVTP3 x 12 7-685-648-79
- : BVTP4 x 16 7-685-663-79



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
1	4-382-745-01	HOLDER, RC		14	▲ 1-439-416-11	TRANSFORMER ASSY, FLYBACK	
3	4-386-618-01	RIVET, T TYPE		15	*A-1345-721-A	D BOARD, COMPLETE	
4	*A-1296-476-A	A BOARD, COMPLETE		16	*1-629-719-21	F1 BOARD	
5	▲ 1-465-053-11	TUNER, ET (UV-615S)		17	▲ 4-022-115-01	HOLDER, AC CODE	
6	*4-386-629-12	BRACKET, A		18	*4-386-620-01	COVER, POWER	
7	*4-386-628-11	SUPPORTER, PC BOARD		19	▲ 1-559-346-12	CORD, POWER (WITH CONNECTOR)	
8	*A-1347-030-A	V BOARD, COMPLETE		20	4-387-808-11	COVER, REAR	
9	*A-1135-498-A	B BOARD, COMPLETE		21	X-4385-930-3	BOARD ASSY, BAFFLE	
10	*1-629-781-21	KS BOARD		22	1-503-642-41	SPEAKER	
11	*4-386-617-01	HOLDER, TERMINAL		23	4-387-886-01	SPACER, BAFFLE BOARD	
12	*4-386-624-11	BRACKET, J		24	4-389-292-01	BUSHING, CORD	
13	*A-1371-373-A	J1 BOARD, COMPLETE		27	1-574-565-11	CORD (WITH PLUG)	

The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

SECTION 6 EXPLODED VIEWS

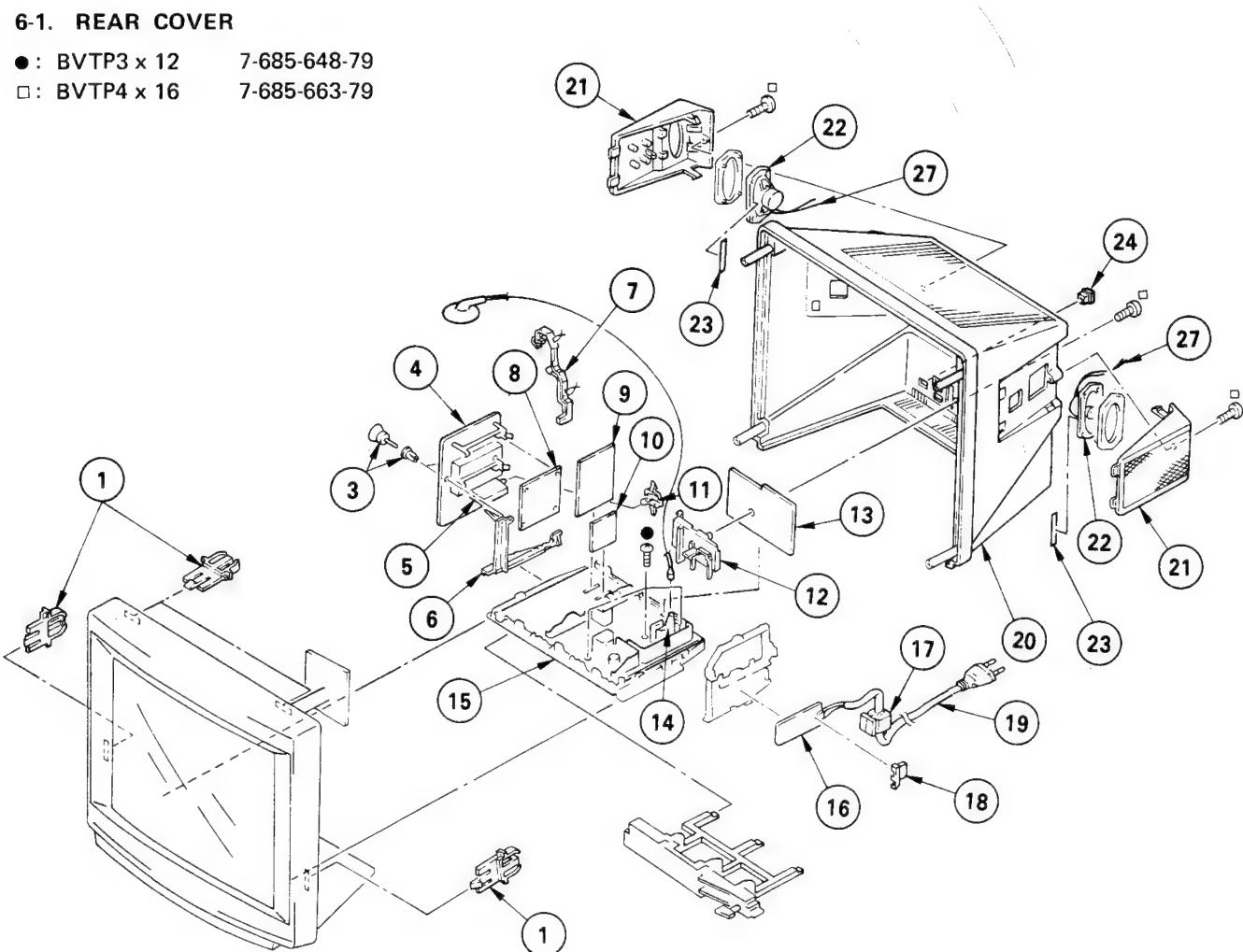
NOTE:
 • Items with no part number and no description are not stocked because they are seldom required for routine service.
 • The construction parts of an assembled part are indicated with a callout number in the remark column.

• Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

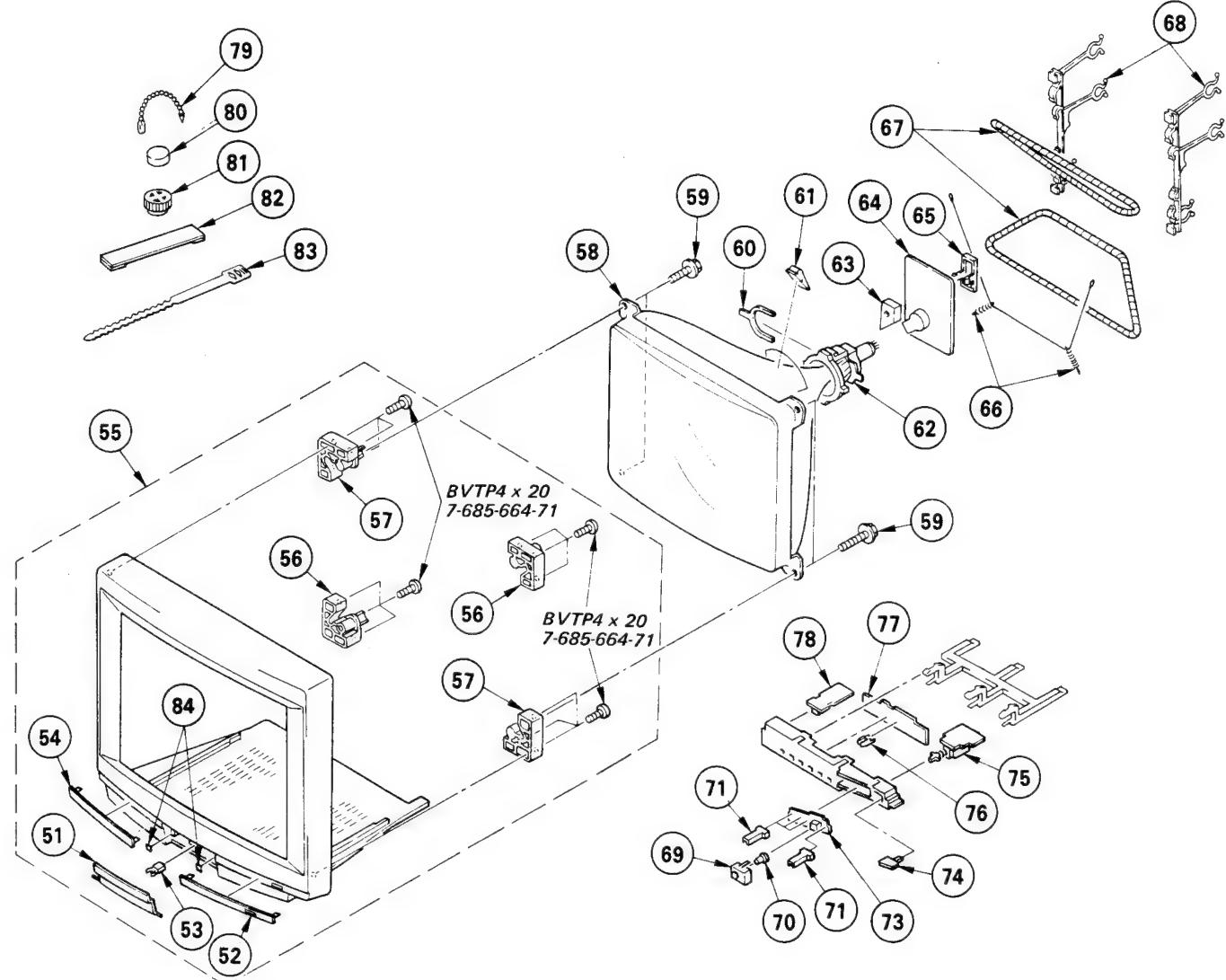
The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

6-1. REAR COVER

- : BVTP3 x 12 7-685-648-79
- : BVTP4 x 16 7-685-663-79



6-2. PICTURE TUBE



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
1	4-382-745-01	HOLDER, RC		14 ▲ .1-439-416-11	TRANSFORMER ASSY, FLYBACK		
3	4-386-618-01	RIVET, T TYPE		15 ▲ *A-1345-721-A	D BOARD, COMPLETE		
4	*A-1296-476-A	A BOARD, COMPLETE		16 *1-629-719-21	F1 BOARD		
5 ▲ .1-465-053-11	TUNER, ET (UV-615S)			17 ▲ .4-022-115-01	HOLDER, AC CODE		
6	*4-386-629-12	BRACKET, A		18 *4-386-620-01	COVER, POWER		
7	*4-386-628-11	SUPPORTER, PC BOARD		19 ▲ .1-559-346-12	CORD, POWER (WITH CONNECTOR)		
8	*A-1347-030-A	V BOARD, COMPLETE		20 4-387-808-11	COVER, REAR		
9	*A-1135-498-A	B BOARD, COMPLETE		21 X-4385-930-3	BOARD ASSY, BAFFLE		
10	*1-629-781-21	KS BOARD		22 1-503-642-41	SPEAKER		
11	*4-386-617-01	HOLDER, TERMINAL		23 4-387-886-01	SPACER, BAFFLE BOARD		
12	*4-386-624-11	BRACKET, J		24 4-389-292-01	BUSHING, CORD		
13	*A-1371-373-A	J1 BOARD, COMPLETE		27 1-574-565-11	CORD (WITH PLUG)		

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
51	4-389-279-01	DOOR, CONTROL		68	*4-386-622-01	BAND, DGC	
52	4-389-280-01	PLATE (A), ORNAMENTAL		69	*4-388-955-01	BRACKET (B), LIGHT GUIDE	
53	4-386-710-01	CATCHER, PUSH		70	*4-374-987-01	GUIDE, LIGHT	
54	4-389-281-01	PLATE (B), ORNAMENTAL		71	*4-387-825-01	HOLDER, LED	
55	X-4389-210-1	BEZNET ASSY	51-54, 56, 57	73	*1-629-786-21	H4 BOARD	
56	4-387-805-03	BRACKET (A), PICTURE TUBE		74	4-389-278-01	BUTTON, POWER	
57	*4-387-806-03	BRACKET (B), PICTURE TUBE		75	*1-629-720-21	F2 BOARD	
58 ▲ .8-738-753-05	PICTURE TUBE (A51JUH60X)			76	*4-384-208-01	HOLDER, LED	
59	4-382-733-01	SCREW (S), PT		77	*1-629-785-21	H3 BOARD	
60	1-452-277-00	MAGNET, BMC		78	*1-629-783-21	J2 BOARD	
61	3-703-961-01	SPACER, DY		79	4-308-870-00	CLIP, LEAD WIRE	
62 ▲ .1-451-295-31	DEFLECTION YOKE (SY-153E)			80	1-452-032-00	MAGNET, DISK; 10MM φ	
63	*4-379-167-01	COVER (MAIN), CV		81	1-452-094-00	MAGNET, ROTATABLE DISK; 150MM φ	
64	*A-1330-850-A	C BOARD, COMPLETE		82	X-4309-608-0	PERMALOY ASSY, CONVERGENCE	
65	*4-379-160-01	COVER (REAR LID), CV		83	3-701-007-00	BAND, BINDING	
66	4-369-318-00	SPRING, TENSION		84	4-314-871-00	CUSHION	
67 ▲ .1-426-383-11	COIL, DEMAGNETIZATION						

The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

SECTION 7

ELECTRICAL PARTS LIST

NOTE :

The components identified by shading and mark **A** are critical for safety. Replace only with part number.

Replace only with part number specified.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS

When indicating parts by reference number, please include the board name.

Note) In this parts list, the mounting diagram is for a different product.
Therefore, an excess of parts is listed.

REF. NO.	PART NO.	DESCRIPTION			REMARK	REF. NO.	PART NO.	DESCRIPTION			REMARK	
*A-1135-498-A	B BOARD, COMPLETE					C357	1-102-965-00	CERAMIC	39PF	5%	50V	
	*****					C358	1-124-963-11	ELECT	33MF	20%	16V	
						C359	1-102-963-00	CERAMIC	33PF	5%	50V	
						C360	1-101-004-00	CERAMIC	0.01MF		50V	
		<CAPACITOR>				C361	1-101-004-00	CERAMIC	0.01MF		50V	
C301	1-106-228-00	MYLAR	0.22MF	10%	100V	C364	1-101-361-00	CERAMIC	150PF	5%	50V	
C302	1-106-228-00	MYLAR	0.22MF	10%	100V	C365	1-124-477-11	ELECT	47MF	20%	16V	
C303	1-126-101-11	ELECT	100MF	20%	16V	C366	1-124-477-11	ELECT	47MF	20%	16V	
C304	1-106-228-00	MYLAR	0.22MF	10%	100V	C367	1-101-004-00	CERAMIC	0.01MF		50V	
C305	1-124-119-00	ELECT	330MF	20%	16V	C368	1-101-880-00	CERAMIC	47PF	5%	50V	
C306	1-124-902-00	ELECT	0.47MF	20%	50V	C381	1-124-902-00	ELECT	0.47MF	20%	50V	
C307	1-124-902-00	ELECT	0.47MF	20%	50V	C382	1-124-927-11	ELECT	4.7MF	20%	50V	
C308	1-124-902-00	ELECT	0.47MF	20%	50V	C384	1-124-477-11	ELECT	47MF	20%	16V	
C309	1-124-902-00	ELECT	0.47MF	20%	50V	C385	1-124-927-11	ELECT	4.7MF	20%	50V	
C310	1-106-220-00	MYLAR	0.1MF	10%	100V	C387	1-124-902-00	ELECT	0.47MF	20%	50V	
C311	1-106-220-00	MYLAR	0.1MF	10%	100V	C1311	1-101-884-00	CERAMIC	56PF	5%	50V	
C312	1-124-902-00	ELECT	0.47MF	20%	50V							
C313	1-124-902-00	ELECT	0.47MF	20%	50V							
C314	1-124-902-00	ELECT	0.47MF	20%	50V							
C315	1-124-499-11	ELECT	1MF	20%	50V							
		<CONNECTOR>										
C319	1-124-477-11	ELECT	47MF	20%	16V	CNB31	*1-562-370-21	CONNECTOR, BOARD TO BOARD 18P				
C321	1-102-980-00	CERAMIC	270PF	5%	50V	CNB72	*1-564-895-11	PLUG, CONNECTOR 6P				
C322	1-101-888-00	CERAMIC	68PF	5%	50V	CNB93	*1-560-278-41	PLUG, CONNECTOR 6P				
C325	1-124-477-11	ELECT	47MF	20%	16V							
C326	1-101-004-00	CERAMIC	0.01MF		50V							
		<TRIMMER>										
C327	1-101-004-00	CERAMIC	0.01MF		50V	CT331	1-141-181-11	CAP, TRIMMER				
C330	1-101-004-00	CERAMIC	0.01MF		50V	CT332	1-141-181-11	CAP, TRIMMER				
C331	1-124-963-11	ELECT	33MF	20%	16V							
C332	1-124-119-00	ELECT	330MF	20%	16V							
C333	1-101-005-00	CERAMIC	0.022MF		50V							
		<DIODE>										
C334	1-101-884-00	CERAMIC	56PF	5%	50V	D301	8-719-911-19	DIODE ISS119				
C335	1-101-006-00	CERAMIC	0.047MF		50V	D302	8-719-911-19	DIODE ISS119				
C336	1-106-367-00	MYLAR	0.01MF	10%	400V	D303	8-719-911-19	DIODE ISS119				
C337	1-101-004-00	CERAMIC	0.01MF		50V	D304	8-719-911-19	DIODE ISS119				
C338	1-101-888-00	CERAMIC	68PF	5%	50V	D305	8-719-911-19	DIODE ISS119				
		<DIODE>										
C339	1-102-816-00	CERAMIC	120PF	5%	50V	D307	8-719-110-23	DIODE RD11ES-B3				
C340	1-102-953-00	CERAMIC	18PF	5%	50V	D309	8-719-911-19	DIODE ISS119				
C341	1-102-978-00	CERAMIC	220PF	5%	50V	D331	8-719-911-19	DIODE ISS119				
C342	1-102-953-00	CERAMIC	18PF	5%	50V	D333	8-719-911-19	DIODE ISS119				
C343	1-102-816-00	CERAMIC	120PF	5%	50V	D341	8-719-911-19	DIODE ISS119				
		<DELAY LINE>										
C344	1-101-888-00	CERAMIC	68PF	5%	50V							
C345	1-102-978-00	CERAMIC	220PF	5%	50V							
C346	1-102-074-00	CERAMIC	0.001MF	10%	50V							
C347	1-124-499-11	ELECT	1MF	20%	50V	DL331	1-415-122-00	DELAY LINE				
C348	1-124-499-11	ELECT	1MF	20%	50V	DL332	1-236-062-11	MODULE, Y DELAY LINE				
		<IC>										
C349	1-136-173-00	FILM	0.47MF	5%	50V							
C350	1-106-383-00	MYLAR	0.047MF	10%	100V							
C351	1-106-375-12	MYLAR	0.022MF	10%	250V							
C352	1-106-375-12	MYLAR	0.022MF	10%	250V	IC301	8-759-979-85	IC TDA4580-V4				
C354	1-102-074-00	CERAMIC	0.001MF	10%	50V	IC302	8-759-980-60	IC TDA8442-N3				
C355	1-102-816-00	CERAMIC	120PF	5%	50V	IC331	8-759-947-20	IC TDA4555-V8				

B

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
<COIL>							
L301	1-410-868-21	INDUCTOR	4.7UH	R328	1-249-397-11	CARBON	22 5% 1/4W
L302	1-410-868-21	INDUCTOR	4.7UH	R329	1-249-397-11	CARBON	22 5% 1/4W
L303	1-408-408-00	INDUCTOR	8.2UH	R330	1-249-397-11	CARBON	22 5% 1/4W
L304	1-408-409-00	INDUCTOR	10UH	R331	1-249-418-11	CARBON	1.2K 5% 1/4W
L331	1-408-408-00	INDUCTOR	8.2UH	R332	1-249-401-11	CARBON	47 5% 1/4W
L332	1-404-539-11	COIL		R333	1-249-412-11	CARBON	390 5% 1/4W
L333	1-404-554-11	COIL		R334	1-249-408-11	CARBON	180 5% 1/4W
L334	1-404-554-11	COIL		R335	1-249-415-11	CARBON	680 5% 1/4W
L335	1-404-554-11	COIL		R336	1-249-418-11	CARBON	1.2K 5% 1/4W
L336	1-408-417-00	INDUCTOR	47UH	R337	1-247-848-11	CARBON	5.1K 5% 1/4W
L338	1-408-416-00	INDUCTOR	39UH	R338	1-249-429-11	CARBON	10K 5% 1/4W
L339	1-410-868-21	INDUCTOR	4.7UH	R339	1-249-409-11	CARBON	220 5% 1/4W
				R340	1-249-437-11	CARBON	47K 5% 1/4W
				R341	1-249-410-11	CARBON	270 5% 1/4W
				R342	1-249-429-11	CARBON	10K 5% 1/4W
				R343	1-249-429-11	CARBON	10K 5% 1/4W
				R344	1-249-437-11	CARBON	47K 5% 1/4W
				R345	1-249-419-11	CARBON	1.5K 5% 1/4W
				R346	1-249-429-11	CARBON	10K 5% 1/4W
<TRANSISTOR>							
Q302	8-729-119-78	TRANSISTOR	2SC2785-HFE	R348	1-249-437-11	CARBON	47K 5% 1/4W
Q303	8-729-119-78	TRANSISTOR	2SC2785-HFE	R349	1-249-415-11	CARBON	680 5% 1/4W
Q305	8-729-900-36	TRANSISTOR	DTC124ES	R350	1-249-415-11	CARBON	680 5% 1/4W
Q306	8-729-119-78	TRANSISTOR	2SC2785-HFE	R351	1-249-409-11	CARBON	220 5% 1/4W
Q311	8-729-119-78	TRANSISTOR	2SC2785-HFE	R352	1-247-891-00	CARBON	330K 5% 1/4W
Q312	8-729-119-78	TRANSISTOR	2SC2785-HFE	R353	1-247-891-00	CARBON	330K 5% 1/4W
Q313	8-729-119-78	TRANSISTOR	2SC2785-HFE	R354	1-249-409-11	CARBON	220 5% 1/4W
Q316	8-729-119-78	TRANSISTOR	2SC2785-HFE	R355	1-249-423-11	CARBON	3.3K 5% 1/4W
Q331	8-729-119-78	TRANSISTOR	2SC2785-HFE	R356	1-249-427-11	CARBON	6.8K 5% 1/4W
Q332	8-729-900-36	TRANSISTOR	DTC124ES	R358	1-249-409-11	CARBON	220 5% 1/4W
Q333	8-729-900-36	TRANSISTOR	DTC124ES	R359	1-249-437-11	CARBON	47K 5% 1/4W
Q334	8-729-119-78	TRANSISTOR	2SC2785-HFE	R360	1-249-437-11	CARBON	47K 5% 1/4W
Q335	8-729-119-78	TRANSISTOR	2SC2785-HFE	R361	1-249-418-11	CARBON	1.2K 5% 1/4W
Q336	8-729-119-78	TRANSISTOR	2SC2785-HFE	R363	1-249-410-11	CARBON	270 5% 1/4W
Q381	8-729-900-36	TRANSISTOR	DTC124ES	R364	1-249-417-11	CARBON	1K 5% 1/4W
Q382	8-729-119-78	TRANSISTOR	2SC2785-HFE	R365	1-249-417-11	CARBON	1K 5% 1/4W
Q1306	8-729-173-38	TRANSISTOR	2SA733-K	R367	1-249-409-11	CARBON	220 5% 1/4W
				R368	1-249-417-11	CARBON	1K 5% 1/4W
				R369	1-249-417-11	CARBON	1K 5% 1/4W
				R370	1-249-418-11	CARBON	1.2K 5% 1/4W
<RESISTOR>							
R301	1-249-409-11	CARBON	220 5% 1/4W	R371	1-249-417-11	CARBON	1K 5% 1/4W
R302	1-249-409-11	CARBON	220 5% 1/4W	R376	1-249-429-11	CARBON	10K 5% 1/4W
R303	1-249-409-11	CARBON	220 5% 1/4W	R378	1-249-441-11	CARBON	100K 5% 1/4W
R304	1-249-409-11	CARBON	220 5% 1/4W	R379	1-249-441-11	CARBON	100K 5% 1/4W
R305	1-249-421-11	CARBON	2.2K 5% 1/4W	R380	1-249-426-11	CARBON	5.6K 5% 1/4W
R307	1-249-441-11	CARBON	100K 5% 1/4W	R381	1-249-439-11	CARBON	68K 5% 1/4W
R308	1-249-414-11	CARBON	560 5% 1/4W	R382	1-247-885-00	CARBON	180K 5% 1/4W
R309	1-249-405-11	CARBON	100 5% 1/4W	R383	1-247-893-11	CARBON	390K 5% 1/4W
R310	1-249-405-11	CARBON	100 5% 1/4W	R385	1-249-435-11	CARBON	33K 5% 1/4W
R311	1-249-405-11	CARBON	100 5% 1/4W	R389	1-247-883-00	CARBON	150K 5% 1/4W
R312	1-249-409-11	CARBON	220 5% 1/4W	R390	1-249-411-11	CARBON	330 5% 1/4W
R313	1-249-433-11	CARBON	22K 5% 1/4W	R391	1-249-404-00	CARBON	82 5% 1/4W
R314	1-249-413-11	CARBON	470 5% 1/4W	R392	1-249-402-11	CARBON	56 5% 1/4W
R315	1-249-407-11	CARBON	150 5% 1/4W	R393	1-249-402-11	CARBON	56 5% 1/4W
R316	1-249-407-11	CARBON	150 5% 1/4W	R394	1-249-402-11	CARBON	56 5% 1/4W
R317	1-249-407-11	CARBON	150 5% 1/4W				
R318	1-249-429-11	CARBON	10K 5% 1/4W				
R319	1-249-409-11	CARBON	220 5% 1/4W				
R320	1-249-417-11	CARBON	1K 5% 1/4W				
R321	1-249-421-11	CARBON	2.2K 5% 1/4W				
R322	1-249-420-11	CARBON	1.8K 5% 1/4W				
R323	1-249-421-11	CARBON	2.2K 5% 1/4W				
R324	1-249-426-11	CARBON	5.6K 5% 1/4W				
R325	1-249-429-11	CARBON	10K 5% 1/4W				
R326	1-249-419-11	CARBON	1.5K 5% 1/4W				
R327	1-249-427-11	CARBON	6.8K 5% 1/4W				
<VARIABLE RESISTOR>							
RV331	1-238-009-11	RES, ADJ, CARBON	220				
R1324	1-249-419-11	CARBON	1.5K 5% 1/4W				

The components identified by shading and mark **▲** are critical for safety.
Replace only with part number specified.

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK				
<TRANSFORMER>											
T331	1-404-584-11	COIL		<THERMISTOR>							
<CRYSTAL>											
X331	1-567-307-11	OSCILLATOR, CRYSTAL		THP601▲1-808-059-31 THERMISTOR, POSITIVE							
X332	1-567-131-00	OSCILLATOR, CRYSTAL		*****							

*1-629-720-21	F2 BOARD		*****	*A-1296-476-A A BOARD, COMPLETE							

<CONNECTOR>											
CNF262*1-566-664-11	PIN, CONNECTOR 4P			C101	1-126-233-11	ELECT	22MF	20%	50V		

<SWITCH>											
S1701▲1-571-410-11	SWITCH, PUSH (AC POWER) (1 KEY)			C102	1-126-103-11	ELECT	470MF	20%	16V		

*1-629-719-21	F1 BOARD		*****	C103	1-106-220-00	MYLAR	0.1MF	10%	100V		

<CAPACITOR>											
C1601▲1-136-518-11	FILM	0.33MF	20%	C104	1-106-216-00	MYLAR	0.068MF	10%	100V		
C1602▲1-136-519-11	FILM	0.47MF	20%	C105	1-106-216-00	MYLAR	0.068MF	10%	100V		
C1603▲1-162-578-51	CERAMIC	0.0047MF	20%	<CAPACITOR>							
C1604▲1-162-578-51	CERAMIC	0.0047MF	20%	C106	1-101-004-00	CERAMIC	0.01MF	5%	50V		
C1605▲1-162-578-51	CERAMIC	0.0047MF	20%	C107	1-102-963-00	CERAMIC	33PF	20%	16V		
C1606▲1-162-578-51	CERAMIC	0.0047MF	20%	C108	1-124-963-11	ELECT	33MF	20%	50V		
C1607▲1-161-964-61	CERAMIC	0.0047MF	20%	C109	1-101-003-00	CERAMIC	0.0047MF	20%	50V		

<CONNECTOR>											
CNF61 *1-566-664-11	PIN, CONNECTOR 4P			C110	1-124-499-11	ELECT	1MF	20%	50V		
CNF64 *1-506-348-XX	PIN, CONNECTOR 3P			<CONNECTOR>							
CNF65 *1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P			C111	1-101-003-00	CERAMIC	0.0047MF	5%	50V		
CNF66 *1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P			C112	1-101-003-00	CERAMIC	0.0047MF	5%	50V		
CNF67 *1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)			C113	1-101-003-00	CERAMIC	0.0047MF	5%	50V		

CNF162*1-506-348-XX	PIN, CONNECTOR 4P			C114	1-124-963-11	ELECT	33MF	20%	16V		

<FUSE>											
F1601▲1-532-350-11	FUSE, TIME-LAG 4A/250V			C118	1-101-880-00	CERAMIC	47PF	5%	50V		
1-533-087-00	HOLDER, FUSE; F1601			<CONNECTOR>							

<FILTER>											
LF1601▲1-421-866-12	LFT			C119	1-126-101-11	ELECT	100MF	20%	16V		
LF1602▲1-421-776-11	LFT			C120	1-124-925-11	ELECT	2.2MF	20%	50V		
LF1603▲1-421-592-11	TRANSFORMER, FERRITE			C121	1-101-003-00	CERAMIC	0.0047MF	5%	50V		

<RESISTOR>											
R1601▲1-246-513-75	CARBON	47K	5%	C122	1-101-003-00	CERAMIC	0.0047MF	20%	50V		
R1602▲1-244-945-91	CARBON	1M	5%	C123	1-124-499-11	ELECT	1MF	20%	50V		
R1603▲1-217-328-11	WIREWOUND	2.7	10%	C124	1-101-003-00	CERAMIC	0.0047MF	20%	50V		
R1604▲1-246-513-75	CARBON	47K	5%	C125	1-124-925-11	ELECT	2.2MF	20%	50V		
R1605▲1-218-265-91	METAL GLAZE	8.2M	5%	C126	1-123-875-11	ELECT	10MF	20%	50V		

<TRANSFORMER>											
R1601▲1-246-513-75	CARBON	47K	5%	C127	1-101-003-00	CERAMIC	0.0047MF	5%	50V		
R1602▲1-244-945-91	CARBON	1M	5%	C128	1-124-963-11	ELECT	33MF	20%	16V		
R1603▲1-217-328-11	WIREWOUND	2.7	10%	C129	1-101-888-00	CERAMIC	68PF	5%	50V		
R1604▲1-246-513-75	CARBON	47K	5%	C130	1-101-004-00	CERAMIC	0.01MF	5%	50V		
R1605▲1-218-265-91	METAL GLAZE	8.2M	5%	C131	1-101-006-00	CERAMIC	0.047MF	5%	50V		

<CAPACITOR>											
C132	1-124-499-11	ELECT	1MF	C132	1-101-003-00	CERAMIC	0.0047MF	20%	50V		
C133	1-101-003-00	CERAMIC	0.0047MF	C133	1-101-003-00	CERAMIC	0.0047MF	5%	50V		
C134	1-124-499-11	ELECT	1MF	C134	1-124-499-11	ELECT	1MF	20%	50V		

<CONNECTOR>											
C135	1-101-004-00	CERAMIC	0.01MF	C135	1-101-004-00	CERAMIC	0.01MF	5%	50V		
C136	1-101-006-00	CERAMIC	0.047MF	C136	1-101-006-00	CERAMIC	0.047MF	5%	50V		
C137	1-101-880-00	CERAMIC	47PF	C137	1-101-880-00	CERAMIC	47PF	5%	50V		
C138	1-124-925-11	ELECT	2.2MF	C138	1-124-925-11	ELECT	2.2MF	20%	50V		
C139	1-123-875-11	ELECT	10MF	C139	1-123-875-11	ELECT	10MF	20%	50V		

<TRANSFORMER>											
C140	1-108-614-11	MYLAR	0.001MF	C140	1-108-614-11	MYLAR	0.001MF	10%	100V		
C141	1-136-298-00	FILM	0.0033MF	C141	1-136-298-00	FILM	0.0033MF	2%	100V		
C142	1-102-816-00	CERAMIC	120PF	C142	1-102-816-00	CERAMIC	120PF	5%	50V		
C143	1-101-361-00	CERAMIC	150PF	C143	1-101-361-00	CERAMIC	150PF	5%	50V		
C144	1-124-477-11	ELECT	47MF	C144	1-124-477-11	ELECT	47MF	20%	16V		

<CONNECTOR>											
C145	1-124-477-11	ELECT	47MF	C145	1-124-477-11	ELECT	47MF	20%	16V		
C146	1-124-477-11	ELECT	47MF	C146	1-124-477-11	ELECT	47MF	20%	16V		
C147	1-124-477-11	ELECT	47MF	C147	1-124-477-11	ELECT	47MF	20%	16V		
C148	1-123-875-11	ELECT	10MF	C148	1-123-875-11	ELECT	10MF	20%	50V		
C149	1-136-153-00	FILM	0.01MF	C149	1-136-153-00	FILM	0.01MF	5%	50V		

<TRANSFORMER>											
C150	1-136-153-00	FILM	0.01MF	C150	1-136-153-00	FILM	0.01MF	5%	50V		
C151	1-126-233-11	ELECT	22MF	C151	1-126-233-11	ELECT	22MF	20%	50V		
C152	1-126-233-11	ELECT	22MF	C152	1-126-233-11	ELECT	22MF	20%	50V		
C153	1-136-165-00	FILM	0.1MF	C153	1-136-165-00	FILM	0.1MF	5%	50V		
C154	1-136-169-00	FILM	0.22MF	C154	1-136-169-00	FILM	0.22MF	5%	50V		

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK				
C155	1-124-963-11	ELECT	33MF	20%	16V	Q101	8-729-900-61	TRANSISTOR DTA114ES			
C156	1-136-157-00	FILM	0.022MF	5%	50V	Q102	8-729-900-61	TRANSISTOR DTA114ES			
C157	1-136-161-00	FILM	0.047MF	5%	50V	Q103	8-729-900-61	TRANSISTOR DTA114ES			
C158	1-124-963-11	ELECT	33MF	20%	16V	Q104	8-729-900-61	TRANSISTOR DTA114ES			
C159	1-124-477-11	ELECT	47MF	20%	16V	Q105	8-729-119-78	TRANSISTOR 2SC2785-HFE			
C161	1-124-477-11	ELECT	47MF	20%	16V	Q106	8-729-119-78	TRANSISTOR 2SC2785-HFE			
C162	1-102-816-00	CERAMIC	120PF	5%	50V	Q107	8-729-173-38	TRANSISTOR 2SA733-K			
C163	1-124-927-11	ELECT	4.7MF	20%	50V	Q108	8-729-900-65	TRANSISTOR DTA144ES			
C164	1-106-367-00	MYLAR	0.01MF	10%	400V	Q109	8-729-900-89	TRANSISTOR DTC144ES			
C165	1-136-287-11	FILM	0.0047MF	5%	50V	Q110	8-729-173-38	TRANSISTOR 2SA733-K			
C167	1-124-499-11	ELECT	1MF	20%	50V	Q111	8-729-900-89	TRANSISTOR DTC144ES			
C168	1-106-228-00	MYLAR	0.22MF	10%	100V	Q112	8-729-119-78	TRANSISTOR 2SC2785-HFE			
C169	1-123-875-11	ELECT	10MF	20%	50V	Q113	8-729-119-78	TRANSISTOR 2SC2785-HFE			
C174	1-124-499-11	ELECT	1MF	20%	50V	Q116	8-729-900-65	TRANSISTOR DTA144ES			
C177	1-102-119-00	CERAMIC	0.0015MF	10%	50V	Q117	8-729-173-38	TRANSISTOR 2SA733-K			
C187	1-101-003-00	CERAMIC	0.0047MF		50V			<RESISTOR>			
C188	1-124-963-11	ELECT	33MF	20%	16V	R101	1-249-405-11	CARBON	100	5%	1/4W
C189	1-124-963-11	ELECT	33MF	20%	16V	R102	1-249-423-11	CARBON	3.3K	5%	1/4W
C190	1-106-220-00	MYLAR	0.1MF	10%	100V	R103	1-249-433-11	CARBON	22K	5%	1/4W
						R104	1-249-429-11	CARBON	10K	5%	1/4W
						R105	1-249-418-11	CARBON	1.2K	5%	1/4W
CD102	1-404-745-11	DISCRIMINATOR, CERAMIC				R106	1-247-891-00	CARBON	330K	5%	1/4W
CD103	1-404-746-11	DISCRIMINATOR, CERAMIC				R107	1-249-421-11	CARBON	2.2K	5%	1/4W
CF101	1-404-134-00	TRAP, CERAMIC (5.5MHZ)				R108	1-249-421-11	CARBON	2.2K	5%	1/4W
CF103	1-527-840-00	FILTER, CERAMIC				R109	1-249-423-11	CARBON	3.3K	5%	1/4W
CF104	1-527-839-00	FILTER, CERAMIC				R110	1-249-410-11	CARBON	270	5%	1/4W
SWF101	1-577-254-11	SAWF				R111	1-249-418-11	CARBON	1.2K	5%	1/4W
						R112	1-249-421-11	CARBON	2.2K	5%	1/4W
						R114	1-249-413-11	CARBON	470	5%	1/4W
						R115	1-249-413-11	CARBON	470	5%	1/4W
						R116	1-249-419-11	CARBON	1.5K	5%	1/4W
						R117	1-249-431-11	CARBON	15K	5%	1/4W
						R118	1-249-425-11	CARBON	4.7K	5%	1/4W
D105	8-719-109-92	DIODE RD6.2ES-B1				R119	1-249-417-11	CARBON	1K	5%	1/4W
D106	8-719-911-19	DIODE ISS119				R121	1-249-429-11	CARBON	10K	5%	1/4W
D108	8-719-000-06	DIODE MC921				R122	1-249-436-11	CARBON	39K	5%	1/4W
D110	8-719-911-19	DIODE ISS119				R123	1-249-417-11	CARBON	1K	5%	1/4W
D111	8-719-109-68	DIODE RD3.6ES-B1				R124	1-249-423-11	CARBON	3.3K	5%	1/4W
						R125	1-249-429-11	CARBON	10K	5%	1/4W
						R126	1-249-436-11	CARBON	39K	5%	1/4W
						R127	1-249-432-11	CARBON	18K	5%	1/4W
IC101	8-759-909-08	IC TDA3541				R128	1-249-432-11	CARBON	18K	5%	1/4W
IC102	8-759-973-86	IC TDA2558				R129	1-249-429-11	CARBON	10K	5%	1/4W
IC103	8-759-030-48	IC TDA6600-2				R130	1-249-429-11	CARBON	10K	5%	1/4W
IC104	8-759-946-99	IC TDA2595-V7				R132	1-249-414-11	CARBON	560	5%	1/4W
						R133	1-249-425-11	CARBON	4.7K	5%	1/4W
						R134	1-249-414-11	CARBON	560	5%	1/4W
						R135	1-249-419-11	CARBON	1.5K	5%	1/4W
L101	1-408-226-00	INDUCTOR	82UH			R136	1-249-414-11	CARBON	560	5%	1/4W
L102	1-410-116-11	INDUCTOR	0.56MMH			R137	1-249-414-11	CARBON	560	5%	1/4W
L103	1-408-406-00	INDUCTOR	5.6UH			R138	1-249-419-11	CARBON	1.5K	5%	1/4W
L104	1-408-411-00	INDUCTOR	15UH			R139	1-249-431-11	CARBON	15K	5%	1/4W
L106	1-408-415-00	INDUCTOR	33UH			R140	1-249-441-11	CARBON	100K	5%	1/4W
L107	1-408-406-00	INDUCTOR	5.6UH			R141	1-249-425-11	CARBON	4.7K	5%	1/4W
L108	1-408-412-00	INDUCTOR	18UH			R142	1-249-441-11	CARBON	100K	5%	1/4W
L109	1-408-412-00	INDUCTOR	18UH			R143	1-249-441-11	CARBON	100K	5%	1/4W
L110	1-410-064-11	INDUCTOR	2.7MMH			R144	1-249-422-11	CARBON	2.7K	5%	1/4W
L111	1-408-421-00	INDUCTOR	100UH			R146	1-249-424-11	CARBON	3.9K	5%	1/4W
L113	1-408-399-00	INDUCTOR	1.5UH			R148	1-249-413-11	CARBON	470	5%	1/4W
						R150	1-249-423-11	CARBON	3.3K	5%	1/4W
						R151	1-249-423-11	CARBON	3.3K	5%	1/4W
						R152	1-249-431-11	CARBON	15K	5%	1/4W

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REF. NO.	PART NO.	DESCRIPTION				REMARK	REF. NO.	PART NO.	DESCRIPTION				REMARK
R153	1-249-416-11	CARBON	820	5%	1/4W		D707	8-719-911-19	DIODE	ISS119			
R154	1-249-441-11	CARBON	100K	5%	1/4W		D708	8-719-911-19	DIODE	ISS119			
R155	1-249-430-11	CARBON	12K	5%	1/4W		D709	8-719-911-19	DIODE	ISS119			
R156	1-247-881-00	CARBON	120K	5%	1/4W		D710	8-719-911-19	DIODE	ISS119			
R163	1-249-424-11	CARBON	3.9K	5%	1/4W		D711	8-719-925-06	DIODE	ERC25-06S			
R165	1-249-423-11	CARBON	3.3K	5%	1/4W		D713	8-719-911-19	DIODE	ISS119			
R166	1-249-437-11	CARBON	47K	5%	1/4W								
R174	1-249-429-11	CARBON	10K	5%	1/4W								
R175	1-249-429-11	CARBON	10K	5%	1/4W								
R188	1-249-419-11	CARBON	1.5K	5%	1/4W								
R189	1-249-419-11	CARBON	1.5K	5%	1/4W		J701	1-526-798-51	SOCKET, PICTURE TUBE				
<VARIABLE RESISTOR>													
RV101	1-237-753-11	RES, ADJ, CARBON	47K				L704	1-410-878-21	INDUCTOR	33UH			
RV102	1-237-751-11	RES, ADJ, CARBON	10K										
RV103	1-237-753-11	RES, ADJ, CARBON	47K										
<TRANSFORMER>													
T101	1-404-493-00	COIL					Q702	8-729-119-78	TRANSISTOR	2SC2785-HFE			
T102	1-404-493-00	COIL					Q703	8-729-326-11	TRANSISTOR	2SC2611			
T103	1-404-493-00	COIL					Q704	8-729-200-17	TRANSISTOR	2SA1091			

*A-1330-850-A C BOARD, COMPLETE				*****									
*4-379-160-01 COVER (REAR LID), CV				*****									
*4-379-167-01 COVER (MAIN), CV				*****									
*4-386-664-01 SPRING				*****									
<CAPACITOR>													
C703	1-102-980-00	CERAMIC	270PF	5%	50V		R704	1-216-486-00	METAL OXIDE	8.2K	5%	3W	F
C704	1-102-116-00	CERAMIC	680PF	10%	50V		R705	1-202-824-00	SOLID	3.3K	10%	1/2W	
C705	1-102-976-00	CERAMIC	180PF	5%	50V		R706	1-249-409-11	CARBON	220	5%	1/4W	
C706	1-102-116-00	CERAMIC	680PF	10%	50V		R707	1-247-822-11	CARBON	430	5%	1/4W	
C707	1-162-116-00	CERAMIC	680PF	10%	2KV		R708	1-249-401-11	CARBON	47	5%	1/4W	
C708	1-162-114-00	CERAMIC	0.0047MF		2KV		R709	1-202-844-00	SOLID	330K	10%	1/2W	
C709	1-102-116-00	CERAMIC	680PF	10%	50V		R710	1-215-469-00	METAL	100K	1%	1/6W	
C710	1-123-947-00	ELECT	10MF	20%	250V		R712	1-249-417-11	CARBON	1K	5%	1/4W	
C711	1-101-880-00	CERAMIC	47PF	5%	50V		R713	1-215-474-00	METAL	160K	1%	1/6W	
C712	1-102-980-00	CERAMIC	270PF	5%	50V		R714	1-216-486-00	METAL OXIDE	8.2K	5%	3W	F
C714	1-124-360-00	ELECT	1000MF	20%	16V		R715	1-202-824-00	SOLID	3.3K	10%	1/2W	
C716	1-162-622-11	CERAMIC	330PF	10%	400V		R716	1-249-409-11	CARBON	220	5%	1/4W	
C717	1-102-114-00	CERAMIC	470PF	10%	50V		R717	1-249-415-11	CARBON	680	5%	1/4W	
C718	1-102-114-00	CERAMIC	470PF	10%	50V		R718	1-202-814-11	SOLID	33K	10%	1/2W	
C719	1-102-114-00	CERAMIC	470PF	10%	50V		R719	1-249-401-11	CARBON	47	5%	1/4W	
C720	1-124-360-00	ELECT	1000MF	20%	16V		R720	1-249-423-11	CARBON	3.3K	5%	1/4W	
C721	1-162-622-11	CERAMIC	330PF	10%	400V		R721	1-202-842-11	SOLID	220K	10%	1/2W	
C722	1-102-114-00	CERAMIC	470PF	10%	50V		R722	1-202-848-00	SOLID	680K	10%	1/2W	
C723	1-102-114-00	CERAMIC	470PF	10%	50V		R723	1-249-417-11	CARBON	1K	5%	1/4W	
C724	1-102-846-00	SOLID					R724	1-202-846-00	SOLID	470K	10%	1/2W	
<CONNECTOR>													
CNC71	*1-506-371-00	PIN, CONNECTOR 2P					R725	1-202-838-00	SOLID	100K	10%	1/2W	
CNC72	*1-564-883-11	PLUG, CONNECTOR 6P					R726	1-202-824-00	SOLID	3.3K	10%	1/2W	
CNC81	*1-560-123-00	PLUG, CONNECTOR (2.5MM PITCH)					R727	1-249-409-11	CARBON	220	5%	1/4W	
CNC82	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P					R728	1-216-347-11	METAL OXIDE	0.68	5%	1W	F
<DIODE>													
D701	8-719-110-14	DIODE RD9.1ES-B3					R729	1-249-416-11	CARBON	820	5%	1/4W	
D702	8-719-911-19	DIODE ISS119					R730	1-249-401-11	CARBON	47	5%	1/4W	
D703	8-719-911-19	DIODE ISS119					R731	1-249-423-11	CARBON	3.3K	5%	1/4W	
D704	8-719-911-19	DIODE ISS119					R732	1-249-415-11	CARBON	680	5%	1/4W	
D705	8-719-911-19	DIODE ISS119					R733	1-249-415-11	CARBON	680	5%	1/4W	
D706	8-719-911-19	DIODE ISS119					R734	1-249-405-11	CARBON	100	5%	1/4W	
							R735	1-215-493-00	METAL	1M	1%	1/6W	
							R736	1-216-486-00	METAL OXIDE	8.2K	5%	3W	F
							R737	1-215-487-00	METAL	560K	1%	1/6W	
							R739	1-249-417-11	CARBON	1K	5%	1/4W	

C **D**

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
<VARIABLE RESISTOR>							
RV701	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M		C508	1-106-375-12	MYLAR	0.022MF
RV702	1-230-619-11	RES, ADJ, METAL GLAZE 110M		C509	1-106-220-00	MYLAR	0.1MF
RV703	1-237-749-11	RES, ADJ, CARBON 2200		C510	1-161-959-00	CERAMIC	22PF
RV704	1-237-749-11	RES, ADJ, CARBON 2200		C511	1-108-620-11	MYLAR	0.0033MF
				C512	1-106-220-00	MYLAR	0.1MF
				C513	1-108-614-11	MYLAR	0.001MF
				C514	1-106-228-00	MYLAR	0.22MF

*A-1345-721-A		D BOARD, COMPLETE		C515	1-124-499-11	ELECT	1MF
*****				C516	1-108-614-11	MYLAR	0.001MF
*****				C517	1-124-252-00	ELECT	0.33MF
*****				C518	1-124-902-00	ELECT	0.47MF
*****				C519	1-136-173-00	FILM	0.47MF
*****				C520	1-102-121-00	CERAMIC	0.0022MF
*****				C521	1-106-220-00	MYLAR	0.1MF
*****				C522	1-124-122-11	ELECT	100MF
*****				C523	1-108-614-11	MYLAR	0.001MF
*****				C524	1-108-798-11	MYLAR	0.0033MF
*****				C525	1-102-973-00	CERAMIC	100PF
*****				C526	1-102-951-00	CERAMIC	15PF
*****				C527	1-106-220-00	MYLAR	0.1MF
*****				C531	1-124-190-00	ELECT	680MF
*****				C532	1-124-122-11	ELECT	100MF
*****				C533	1-106-216-00	MYLAR	0.068MF
*****				C534	1-124-120-11	ELECT	220MF
*****				C536	1-131-363-00	TANTALUM	4.7MF
*****				C537	1-124-499-11	ELECT	1MF
*****				C538	1-108-614-11	MYLAR	0.001MF
*****				C539	1-102-820-00	CERAMIC	330PF
*****				C591	1-123-875-11	ELECT	10MF
*****				C592	1-124-910-11	ELECT	47MF
*****				C593	1-102-820-00	CERAMIC	330PF
*****				C601	1-162-599-12	CERAMIC	0.0047MF
*****				C602	1-162-599-12	CERAMIC	0.0047MF
*****				C603	1-162-599-12	CERAMIC	0.0047MF
*****				C604	1-125-318-00	ELECT(BLOCK)	220MF
*****				C605	1-124-122-11	ELECT	100MF
*****				C606	1-106-220-00	MYLAR	0.1MF
*****				C607	1-130-019-00	FILM	0.0012MF
*****				C608	1-123-875-11	ELECT	10MF
*****				C611	1-124-122-11	ELECT	100MF
*****				C612	1-162-115-00	CERAMIC	330PF
*****				C613	1-136-539-11	FILM	0.0022MF
*****				C614	1-102-030-00	CERAMIC	330PF
*****				C615	1-124-557-11	ELECT	1000MF
*****				C616	1-102-030-00	CERAMIC	330PF
*****				C618	1-124-637-11	ELECT	1000MF
*****				C619	1-124-556-11	ELECT	2200MF
*****				C620	1-102-074-00	CERAMIC	0.001MF
*****				C621	1-124-347-00	ELECT	100MF
*****				C622	1-124-556-11	ELECT	2200MF
*****				C623	1-124-910-11	ELECT	47MF
*****				C624	1-124-122-11	ELECT	100MF
*****				C625	1-124-360-00	ELECT	1000MF
*****				C626	1-123-875-11	ELECT	10MF
*****				C627	1-102-074-00	CERAMIC	0.001MF
*****				C631	1-123-875-11	ELECT	10MF
*****				C632	1-102-074-00	CERAMIC	0.001MF
*****				C633	1-124-927-11	ELECT	4.7MF
*****				C636	1-123-382-00	ELECT	3.3MF
*****				C801	1-126-105-11	ELECT	1000MF
*****				C802	1-102-030-00	CERAMIC	330PF
*****				C804	1-123-948-00	ELECT	22MF
*****				C805	1-162-114-00	CERAMIC	0.0047MF
*****							2KV

The components identified by shading and mark  are critical for safety.
Replace only with part number specified.

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The components identified by shading and mark  are critical for safety.
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
L605	1-459-442-00	COIL (WITH CORE)		R018	1-249-417-11	CARBON	1K 5% 1/4W
L606	1-421-013-00	COIL, (HORIZONTAL CHOKES) 25UH		R019	1-249-433-11	CARBON	22K 5% 1/4W
L607	1-408-421-00	INDUCTOR 100UH		R020	1-249-433-11	CARBON	22K 5% 1/4W
L803	1-459-104-00	COIL, DUST CORE		R021	1-249-433-11	CARBON	22K 5% 1/4W
L804	1-408-239-00	INDUCTOR 4.7MMH		R022	1-249-433-11	CARBON	22K 5% 1/4W
L805	1-459-652-12	HLC		R023	1-249-429-11	CARBON	10K 5% 1/4W
L806	1-459-115-00	COIL, DCC-H		R024	1-249-429-11	CARBON	10K 5% 1/4W
L807	1-407-504-00	INDUCTOR 10MMH		R025	1-249-417-11	CARBON	1K 5% 1/4W
L809	*1-420-872-00	COIL, AIR CORE		R026	1-249-417-11	CARBON	1K 5% 1/4W
L810	1-459-390-00	COIL (WITH CORE)		R027	1-249-417-11	CARBON	1K 5% 1/4W
		<IC LINK>		R028	1-249-417-11	CARBON	1K 5% 1/4W
PS601A	1-532-984-91	LINK, IC 2A		R029	1-249-417-11	CARBON	1K 5% 1/4W
PS602A	1-532-675-91	LINK, IC 1.5A		R030	1-249-425-11	CARBON	4.7K 5% 1/4W
		<TRANSISTOR>		R031	1-249-429-11	CARBON	10K 5% 1/4W
Q001	8-729-600-24	TRANSISTOR 2SC403SP-51		R032	1-249-417-11	CARBON	1K 5% 1/4W
Q002	8-729-173-38	TRANSISTOR 2SA733-K		R033	1-249-413-11	CARBON	470 5% 1/4W
Q003	8-729-173-38	TRANSISTOR 2SA733-K		R034	1-249-413-11	CARBON	470 5% 1/4W
Q004	8-729-173-38	TRANSISTOR 2SA733-K		R035	1-249-431-11	CARBON	15K 5% 1/4W
Q252	8-729-900-36	TRANSISTOR DTC124ES		R036	1-249-421-11	CARBON	2.2K 5% 1/4W
Q501	8-729-173-38	TRANSISTOR 2SA733-K		R037	1-249-417-11	CARBON	1K 5% 1/4W
Q502	8-729-173-38	TRANSISTOR 2SA733-K		R038	1-249-417-11	CARBON	1K 5% 1/4W
Q503	8-729-119-78	TRANSISTOR 2SC2785-HFE		R039	1-249-417-11	CARBON	1K 5% 1/4W
Q505	8-729-114-96	TRANSISTOR 2SD774-34		R040	1-249-417-11	CARBON	1K 5% 1/4W
Q506	8-729-140-97	TRANSISTOR 2SB734-34		R041	1-249-417-11	CARBON	1K 5% 1/4W
Q507	8-729-173-38	TRANSISTOR 2SA733-K		R042	1-249-417-11	CARBON	1K 5% 1/4W
Q591	8-729-119-78	TRANSISTOR 2SC2785-HFE		R043	1-249-417-11	CARBON	1K 5% 1/4W
Q598	8-729-119-78	TRANSISTOR 2SC2785-HFE		R044	1-249-429-11	CARBON	10K 5% 1/4W
Q601	8-729-122-03	TRANSISTOR 2SA1220A-Q		R045	1-249-417-11	CARBON	1K 5% 1/4W
Q602	8-729-209-02	TRANSISTOR 2SD1548-LB		R046	1-249-429-11	CARBON	10K 5% 1/4W
		<TRANSISTOR>		R047	1-249-409-11	CARBON	220 5% 1/4W
Q603	8-729-820-15	TRANSISTOR 2SB1185-E		R048	1-249-417-11	CARBON	1K 5% 1/4W
Q604	8-729-308-92	TRANSISTOR 2SD789-03C		R049	1-249-417-11	CARBON	1K 5% 1/4W
Q605	8-729-119-78	TRANSISTOR 2SC2785-HFE		R050	1-249-433-11	CARBON	22K 5% 1/4W
Q606	8-729-119-78	TRANSISTOR 2SC2785-HFE		R051	1-249-429-11	CARBON	10K 5% 1/4W
Q607	8-729-920-92	TRANSISTOR 2SD2096-EF		R052	1-249-439-11	CARBON	68K 5% 1/4W
Q608	*4-368-683-01	SPRING; Q602		R053	1-249-437-11	CARBON	47K 5% 1/4W
Q609	8-729-308-92	TRANSISTOR 2SD789-03C		R054	1-249-417-11	CARBON	1K 5% 1/4W
Q801	8-729-119-78	TRANSISTOR 2SC2785-HFE		R055	1-249-433-11	CARBON	22K 5% 1/4W
Q804	8-729-304-50	TRANSISTOR 2SD1941-06		R056	1-249-440-11	CARBON	82K 5% 1/4W
		<TRANSISTOR>		R057	1-249-409-11	CARBON	220 5% 1/4W
Q805	8-729-119-80	TRANSISTOR 2SC2688-LK		R058	1-249-409-11	CARBON	220 5% 1/4W
		<RESISTOR>		R059	1-249-435-11	CARBON	33K 5% 1/4W
R001	1-249-417-11	CARBON 1K 5% 1/4W		R060	1-249-436-11	CARBON	39K 5% 1/4W
R002	1-249-417-11	CARBON 1K 5% 1/4W		R061	1-249-417-11	CARBON	1K 5% 1/4W
R003	1-249-417-11	CARBON 1K 5% 1/4W		R062	1-249-411-11	CARBON	330 5% 1/4W
R004	1-249-417-11	CARBON 1K 5% 1/4W		R063	1-249-431-11	CARBON	15K 5% 1/4W
R005	1-249-407-11	CARBON 150 5% 1/4W		R064	1-249-429-11	CARBON	10K 5% 1/4W
R006	1-249-417-11	CARBON 1K 5% 1/4W		R065	1-249-413-11	CARBON	470 5% 1/4W
R007	1-249-405-11	CARBON 100 5% 1/4W		R066	1-249-421-11	CARBON	2.2K 5% 1/4W
R008	1-249-417-11	CARBON 1K 5% 1/4W		R067	1-249-413-11	CARBON	470 5% 1/4W
R009	1-249-417-11	CARBON 1K 5% 1/4W		R068	1-249-421-11	CARBON	2.2K 5% 1/4W
R010	1-249-413-11	CARBON 470 5% 1/4W		R069	1-249-423-11	CARBON	3.3K 5% 1/4W
R011	1-249-417-11	CARBON 1K 5% 1/4W		R070	1-249-417-11	CARBON	1K 5% 1/4W
R012	1-249-417-11	CARBON 1K 5% 1/4W		R071	1-249-417-11	CARBON	1K 5% 1/4W
R013	1-249-417-11	CARBON 1K 5% 1/4W		R072	1-249-417-11	CARBON	1K 5% 1/4W
R014	1-249-417-11	CARBON 1K 5% 1/4W		R073	1-249-417-11	CARBON	1K 5% 1/4W
R016	1-249-429-11	CARBON 10K 5% 1/4W		R074	1-249-417-11	CARBON	1K 5% 1/4W
R017	1-249-417-11	CARBON 1K 5% 1/4W		R075	1-249-417-11	CARBON	1K 5% 1/4W
		<RESISTOR>		R076	1-249-413-11	CARBON	470 5% 1/4W
		<RESISTOR>		R077	1-249-413-11	CARBON	3.3K 5% 1/4W
		<RESISTOR>		R078	1-249-423-11	CARBON	3.3K 5% 1/4W
		<RESISTOR>		R079	1-249-435-11	CARBON	33K 5% 1/4W
		<RESISTOR>		R080	1-249-429-11	CARBON	10K 5% 1/4W
		<RESISTOR>		R081	1-249-441-11	CARBON	100K 5% 1/4W
		<RESISTOR>		R082	1-249-409-11	CARBON	220 5% 1/4W
		<RESISTOR>		R083	1-249-429-11	CARBON	10K 5% 1/4W
		<RESISTOR>		R084	1-249-413-11	CARBON	470 5% 1/4W

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R085	1-249-429-11	CARBON	10K 5% 1/4W	R537	1-249-434-11	CARBON	27K 5% 1/4W
R086	1-249-417-11	CARBON	1K 5% 1/4W	R538	1-247-883-00	CARBON	150K 5% 1/4W
R087	1-249-417-11	CARBON	1K 5% 1/4W	R539	1-247-883-00	CARBON	150K 5% 1/4W
R088	1-249-425-11	CARBON	4.7K 5% 1/4W	R540	1-249-399-11	CARBON	33 5% 1/4W
R090	1-249-413-11	CARBON	470 5% 1/4W	R541	1-249-438-11	CARBON	56K 5% 1/4W
R091	1-249-409-11	CARBON	220 5% 1/4W	R542	1-249-425-11	CARBON	4.7K 5% 1/4W
R093	1-249-429-11	CARBON	10K 5% 1/4W	R543	1-249-451-11	CARBON	2.2 5% 1/4W
R094	1-249-429-11	CARBON	10K 5% 1/4W	R544	1-247-745-11	CARBON	330 5% 1/2W
R095	1-249-409-11	CARBON	220 5% 1/4W	R545	1-249-436-11	CARBON	39K 5% 1/4W
R096	1-249-409-11	CARBON	220 5% 1/4W	R546	1-249-434-11	CARBON	27K 5% 1/4W
R097	1-249-429-11	CARBON	10K 5% 1/4W	R547	1-249-426-11	CARBON	5.6K 5% 1/4W
R098	1-249-429-11	CARBON	10K 5% 1/4W	R548	1-216-350-11	METAL OXIDE	1.2 5% 1W F
R099	1-215-900-11	METAL OXIDE	22K 5% 2W F	R549	1-215-890-11	METAL OXIDE	470 5% 2W F
R251	1-249-417-11	CARBON	1K 5% 1/4W	R550	1-249-440-11	CARBON	82K 5% 1/4W
R252	1-249-413-11	CARBON	470 5% 1/4W	R551	1-249-749-00	CARBON	2.2M 5% 1/4W
R253	1-249-413-11	CARBON	470 5% 1/4W	R552	1-216-433-00	METAL OXIDE	1.2K 5% 1W
R255	1-249-385-11	CARBON	2.2 5% 1/4W F	R553	1-216-869-11	METAL OXIDE	1K 5% 1W
R256	1-249-385-11	CARBON	2.2 5% 1/4W F	R554	1-249-411-11	CARBON	330 5% 1/4W
R260	1-249-393-11	CARBON	10 5% 1/4W	R555	1-249-749-00	CARBON	2.2M 5% 1/4W
R261	1-249-429-11	CARBON	10K 5% 1/4W	R556	1-249-405-11	CARBON	100 5% 1/4W
R262	1-249-413-11	CARBON	470 5% 1/4W	R557	1-249-425-11	CARBON	4.7K 5% 1/4W
R263	1-249-421-11	CARBON	2.2K 5% 1/4W	R558	1-247-895-00	CARBON	470K 5% 1/4W
R264	1-249-421-11	CARBON	2.2K 5% 1/4W	R559	1-249-427-11	CARBON	6.8K 5% 1/4W
R265	1-249-425-11	CARBON	4.7K 5% 1/4W	R560	1-249-411-11	CARBON	330 5% 1/4W
R266	1-249-425-11	CARBON	4.7K 5% 1/4W	R591	1-249-427-11	CARBON	6.8K 5% 1/4W
R401	1-249-434-11	CARBON	27K 5% 1/4W	R592	1-249-429-11	CARBON	10K 5% 1/4W
R402	1-249-435-11	CARBON	33K 5% 1/4W	R593	1-249-429-11	CARBON	10K 5% 1/4W
R410	1-249-413-11	CARBON	470 5% 1/4W	R594	1-249-424-11	CARBON	3.9K 5% 1/4W
R411	1-249-413-11	CARBON	470 5% 1/4W	R595	1-249-417-11	CARBON	1K 5% 1/4W
R412	1-249-413-11	CARBON	470 5% 1/4W	R596	1-249-425-11	CARBON	4.7K 5% 1/4W
R500	1-247-897-11	CARBON	560K 5% 1/4W	R597	1-249-425-11	CARBON	4.7K 5% 1/4W
R501	1-249-413-11	CARBON	470 5% 1/4W	R598	1-249-405-11	CARBON	100 5% 1/4W
R502	1-249-409-11	CARBON	220 5% 1/4W	R599	1-249-405-11	CARBON	100 5% 1/4W
R503	1-249-410-11	CARBON	270 5% 1/4W	R602	1-215-901-00	METAL OXIDE	33K 5% 2W F
R504	1-215-427-00	METAL	1.8K 1% 1/6W	R603	1-216-359-00	METAL OXIDE	6.8 5% 1W F
R505	1-249-431-11	CARBON	15K 5% 1/4W	R604	1-249-414-11	CARBON	560 5% 1/4W
R506	1-249-428-11	CARBON	8.2K 5% 1/4W	R605	1-215-469-00	METAL	100K 1% 1/6W
R507	1-247-891-00	CARBON	330K 5% 1/4W	R606	1-249-426-11	CARBON	5.6K 5% 1/4W
R509	1-249-424-11	CARBON	3.9K 5% 1/4W	R607	1-249-434-11	CARBON	27K 5% 1/4W
R510	1-249-426-11	CARBON	5.6K 5% 1/4W	R608	1-215-901-00	METAL OXIDE	33K 5% 2W F
R511	1-249-429-11	CARBON	10K 5% 1/4W	R609	1-249-401-11	CARBON	47 5% 1/4W
R512	1-247-891-00	CARBON	330K 5% 1/4W	R610	1-249-393-11	CARBON	10 5% 1/4W F
R513	1-249-429-11	CARBON	10K 5% 1/4W	R611	1-249-385-11	CARBON	2.2 5% 1/4W F
R514	1-249-409-11	CARBON	220 5% 1/4W	R612	1-207-905-00	WIREWOUND	0.27 10% 2W F
R515	1-249-423-11	CARBON	3.3K 5% 1/4W	R613	1-249-401-11	CARBON	47 5% 1/4W
R516	1-249-408-11	CARBON	180 5% 1/4W	R614	1-205-919-11	WIREWOUND	220 10% 10W F
R517	1-249-429-11	CARBON	10K 5% 1/4W	R616	1-249-417-11	CARBON	1K 5% 1/4W
R518	1-249-437-11	CARBON	47K 5% 1/4W	R617	1-249-411-11	CARBON	330 5% 1/4W
R519	1-249-433-11	CARBON	22K 5% 1/4W	R618	1-216-431-11	METAL OXIDE	560 5% 1W
R520	1-249-411-11	CARBON	330 5% 1/4W	R619	1-249-429-11	CARBON	10K 5% 1/4W
R521	1-249-405-11	CARBON	100 5% 1/4W	R620	1-249-433-11	CARBON	22K 5% 1/4W
R522	1-215-469-00	METAL	100K 1% 1/6W	R621	1-249-431-11	CARBON	15K 5% 1/4W
R523	1-249-417-11	CARBON	1K 5% 1/4W	R622	1-249-429-11	CARBON	10K 5% 1/4W
R524	1-249-421-11	CARBON	2.2K 5% 1/4W	R623	1-249-385-11	CARBON	2.2 5% 1/4W
R525	1-249-417-11	CARBON	1K 5% 1/4W	R624	1-249-411-11	CARBON	330 5% 1/4W
R526	1-249-409-11	CARBON	220 5% 1/4W F	R625	1-215-865-11	METAL OXIDE	220 5% 1W
R527	1-249-431-11	CARBON	15K 5% 1/4W	R626	1-249-411-11	CARBON	330 5% 1/4W
R528	1-249-408-11	CARBON	180 5% 1/4W	R628	1-249-393-11	CARBON	10 5% 1/4W
R529	1-249-427-11	CARBON	6.8K 5% 1/4W	R629	1-249-411-11	CARBON	330 5% 1/4W
R530	1-249-448-11	CARBON	1.2 5% 1/4W F	R630	1-249-437-11	CARBON	47K 5% 1/4W
R533	1-249-408-11	CARBON	180 5% 1/4W	R633	1-249-405-11	CARBON	100 5% 1/4W
R534	1-247-901-11	CARBON	820K 5% 1/4W	R634	1-216-430-11	METAL OXIDE	390 5% 1W
R535	1-249-753-15	CARBON	4.7M 5% 1/4W	R635	1-249-429-11	CARBON	10K 5% 1/4W
R536	1-249-749-00	CARBON	2.2M 5% 1/4W				

D **V**

The components identified by shading and mark **A** are critical for safety.
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R636	1-249-429-11	CARBON	10K 5%	1/4W			
R642	1-216-343-00	METAL OXIDE	0.33 5%	1W	F		
R643	1-217-192-21	WIREWOUND	0.22 10%	2W	F		
R647	1-216-485-11	METAL OXIDE	5.6K 5%	3W	F		
R648	1-216-485-11	METAL OXIDE	5.6K 5%	3W	F		
R650	1-249-417-11	CARBON	1K 5%	1/4W			
R651	1-249-405-11	CARBON	100 5%	1/4W			
R652	1-247-903-00	CARBON	1M 5%	1/4W			
R802	1-249-443-11	CARBON	0.47 5%	1/4W	F		
R805	1-249-448-11	CARBON	1.2 5%	1/4W	F		
R806	1-249-439-11	CARBON	68K 5%	1/4W			
R807	1-216-869-11	METAL OXIDE	1K 5%	1W			
R809	1-202-821-11	SOLID	1.8K 10%	1/2W			
R810	1-202-818-00	SOLID	1K 10%	1/2W			
R811	1-215-863-11	METAL OXIDE	100 5%	1W			
R812	1-249-494-11	CARBON	68K 5%	1/2W			
R815	1-215-884-11	METAL OXIDE	47 5%	2W	F		
R816	1-215-868-00	METAL OXIDE	680 5%	1W			
R817	1-249-417-11	CARBON	1K 5%	1/4W			
R820	1-249-403-11	CARBON	68 5%	1/4W			
R821	1-247-725-11	CARBON	10K 5%	1/4W	F		
R822	1-217-778-11	FUSIBLE	1K 5%	1W	F		
R825	1-216-349-00	METAL OXIDE	1 5%	1W	F		
R826	1-249-441-11	CARBON	100K 5%	1/4W			
R827	1-249-429-11	CARBON	10K 5%	1/4W			
R828	1-249-423-11	CARBON	3.3K 5%	1/4W			
R829	1-249-418-11	CARBON	1.2K 5%	1/4W			
R830	1-249-429-11	CARBON	10K 5%	1/4W			
R831	1-249-451-11	CARBON	2.2 5%	1/4W			
R1001	1-249-421-11	CARBON	2.2K 5%	1/4W			
R1002	1-249-423-11	CARBON	3.3K 5%	1/4W			
R1003	1-249-413-11	CARBON	470 5%	1/4W			
R1005	1-249-408-11	CARBON	180 5%	1/4W			
R1006	1-249-408-11	CARBON	180 5%	1/4W			
R1007	1-249-408-11	CARBON	180 5%	1/4W			
R1008	1-249-409-11	CARBON	220 5%	1/4W			
R1009	1-249-417-11	CARBON	1K 5%	1/4W			
R1012	1-249-405-11	CARBON	100 5%	1/4W			
R5501	1-249-429-11	CARBON	10K 5%	1/4W			
R5502	1-249-417-11	CARBON	1K 5%	1/4W			
R5503	1-249-389-11	CARBON	4.7 5%	1/4W			
R5504	1-247-903-00	CARBON	1M 5%	1/4W			
R5505	1-249-393-11	CARBON	10 5%	1/4W			
<VARIABLE RESISTOR>							
RV501	1-228-991-00	RES, ADJ, CARBON	2.2K				
RV502	1-228-994-00	RES, ADJ, CARBON	10K				
RV601	1-228-991-00	RES, ADJ, CARBON	2.2K				
<SPARK GAP>							
SG801	1-519-063-XX	DISCHARGING GAP					
<TRANSFORMER>							
T601 A.1-448-961-31	S.R.T						
T602 A.1-424-011-12	TRANSFORMER, PULSE						
T801 1-437-090-00	HDT						
T802 A.1-439-416-11	TRANSFORMER ASSY, FLYBACK						
<TERMINAL PIN>							
TP91 *1-535-084-00	1P TERMINAL PIN						
<CONNECTOR>							
CNV03	*1-508-784-00	PIN, CONNECTOR (5MM PITCH)	1P				
V1	*1-560-123-00	PLUG, CONNECTOR (2.5MM)	3P				
V2	*1-560-125-00	PLUG, CONNECTOR (2.5MM)	5P				
V3	*1-560-126-00	PLUG, CONNECTOR (2.5MM)	6P				
V4	*1-560-123-00	PLUG, CONNECTOR (2.5MM PITCH)					
V5	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)					
<TRIMMER>							
CT01	1-141-392-11	CAP, VAR, TRIMMER (1 GANG)					
<DIODE>							
D01	8-719-400-47	DIODE MA3056M					
D02	8-719-400-95	DIODE MA3130L					
D03	8-719-400-18	DIODE MA152WK					

REF. NO.	PART NO.	DESCRIPTION			REMARK	REF. NO.	PART NO.	DESCRIPTION			REMARK
C1424	1-106-375-12	MYLAR	0.022MF	10%	250V	IC1402	8-759-946-32	IC TEA2014A			
C1425	1-124-902-00	ELECT	0.47MF	20%	50V	IC1501	8-759-942-16	IC TEA2031A			
C1426	1-124-902-00	ELECT	0.47MF	20%	50V						
C1427	1-101-003-00	CERAMIC	0.0047MF		50V						
C1428	1-101-003-00	CERAMIC	0.0047MF		50V						
C1429	1-101-003-00	CERAMIC	0.0047MF		50V	L1401	1-412-043-11	INDUCTOR, WIDE BAND			
C1430	1-102-112-00	CERAMIC	330PF	10%	50V	L1402	1-412-043-11	INDUCTOR, WIDE BAND			
C1431	1-124-902-00	ELECT	0.47MF	20%	50V						
C1432	1-124-902-00	ELECT	0.47MF	20%	50V						
C1433	1-126-101-11	ELECT	100MF	20%	16V						
C1436	1-102-074-00	CERAMIC	0.001MF	10%	50V	Q1401	8-729-173-38	TRANSISTOR 2SA733-K			
C1437	1-102-074-00	CERAMIC	0.001MF	10%	50V	Q1402	8-729-173-38	TRANSISTOR 2SA733-K			
C1501	1-123-875-11	ELECT	10MF	20%	50V						
C1502	1-123-875-11	ELECT	10MF	20%	50V						
C1503	1-108-614-11	MYLAR	0.001MF	10%	100V						
C1504	1-124-910-11	ELECT	47MF	20%	50V	R1401	1-249-404-00	CARBON	82	5%	1/4W
C1505	1-106-383-00	MYLAR	0.047MF	10%	100V	R1402	1-247-698-11	CARBON	68	5%	1/4W
C1507	1-108-620-11	MYLAR	0.0033MF	10%	100V	R1403	1-249-437-11	CARBON	47K	5%	1/4W
C1508	1-123-875-11	ELECT	10MF	20%	50V	R1404	1-249-413-11	CARBON	470	5%	1/4W
C1509	1-124-499-11	ELECT	1MF	20%	50V	R1405	1-249-429-11	CARBON	10K	5%	1/4W
C1511	1-123-875-11	ELECT	10MF	20%	50V	R1407	1-247-895-00	CARBON	470K	5%	1/4W
C1512	1-106-363-00	MYLAR	0.0068MF	10%	400V	R1408	1-249-434-11	CARBON	27K	5%	1/4W
C1513	1-102-963-00	CERAMIC	33PF	5%	50V	R1409	1-249-413-11	CARBON	470	5%	1/4W
C1514	1-106-353-00	MYLAR	0.027MF	10%	250V	R1410	1-249-434-11	CARBON	27K	5%	1/4W
C1515	1-102-117-00	CERAMIC	820PF	10%	50V	R1411	1-249-413-11	CARBON	470	5%	1/4W
<CONNECTOR>											
CN1401	1-536-996-11	TERMINAL BOARD, INPUT/OUTPUT				R1412	1-249-437-11	CARBON	47K	5%	1/4W
CN1402	1-561-534-41	SOCKET 21P				R1413	1-247-895-00	CARBON	470K	5%	1/4W
CN1403	1-561-534-41	SOCKET 21P				R1414	1-249-437-11	CARBON	47K	5%	1/4W
CNJ25	*1-564-892-41	PLUG, CONNECTOR 3P				R1415	1-249-434-11	CARBON	27K	5%	1/4W
CNJ41	*1-566-641-11	CONNECTOR, HINGE (TAB) 18P				R1416	1-249-434-11	CARBON	27K	5%	1/4W
CNJ43	*1-564-893-11	PLUG, CONNECTOR 4P				R1417	1-249-404-00	CARBON	82	5%	1/4W
CNJ45	*1-564-894-11	PLUG, CONNECTOR 5P				R1418	1-247-738-11	CARBON	82	5%	1/2W
CNJ51	*1-566-641-11	CONNECTOR, HINGE (TAB) 18P				R1419	1-249-409-11	CARBON	220	5%	1/4W
CNJ67	*1-560-721-21	PLUG, CONNECTOR 2P				R1420	1-249-409-11	CARBON	220	5%	1/4W
CNJ142	*1-564-893-11	PLUG, CONNECTOR 4P				R1422	1-249-417-11	CARBON	1K	5%	1/4W
<DIODE>											
D1401	8-719-110-04	DIODE RD7.5ES-B3				R1423	1-249-434-11	CARBON	27K	5%	1/4W
D1403	8-719-110-04	DIODE RD7.5ES-B3				R1424	1-249-434-11	CARBON	27K	5%	1/4W
D1404	8-719-110-04	DIODE RD7.5ES-B3				R1425	1-249-417-11	CARBON	1K	5%	1/4W
D1405	8-719-110-04	DIODE RD7.5ES-B3				R1426	1-249-417-11	CARBON	1K	5%	1/4W
D1406	8-719-110-04	DIODE RD7.5ES-B3				R1427	1-249-417-11	CARBON	1K	5%	1/4W
D1407	8-719-110-18	DIODE RD10ES-B3				R1428	1-247-895-00	CARBON	470K	5%	1/4W
D1408	8-719-110-14	DIODE RD9.1ES-B3				R1429	1-247-895-00	CARBON	470K	5%	1/4W
D1409	8-719-110-04	DIODE RD7.5ES-B3				R1430	1-247-699-11	METAL	82	5%	1/4W
D1410	8-719-110-04	DIODE RD7.5ES-B3				R1433	1-249-409-11	CARBON	220	5%	1/4W
D1415	8-719-110-04	DIODE RD7.5ES-B3				R1434	1-249-393-11	CARBON	10	5%	1/4W
D1417	8-719-110-04	DIODE RD7.5ES-B3				R1437	1-249-429-11	CARBON	10K	5%	1/4W
D1409	8-719-110-04	DIODE RD7.5ES-B3				R1440	1-249-415-11	CARBON	680	5%	1/4W
D1420	8-719-110-04	DIODE RD7.5ES-B3				R1441	1-249-415-11	CARBON	680	5%	1/4W
D1501	8-719-912-20	DIODE ISS120				R1442	1-249-437-11	CARBON	47K	5%	1/4W
D1502	8-719-911-19	DIODE ISS119				R1443	1-249-437-11	CARBON	47K	5%	1/4W
D1503	8-719-911-19	DIODE ISS119				R1444	1-249-409-11	CARBON	220	5%	1/4W
D1504	8-719-911-19	DIODE ISS119				R1445	1-249-440-11	CARBON	82K	5%	1/4W
D1505	8-719-000-12	DIODE MC931				R1447	1-249-409-11	CARBON	220	5%	1/4W
D1506	8-719-110-85	DIODE RD36ES-B4				R1448	1-249-409-11	CARBON	220	5%	1/4W
D1507	8-719-911-19	DIODE ISS119				R1452	1-249-412-11	CARBON	390	5%	1/4W
						R1453	1-249-412-11	CARBON	390	5%	1/4W
						R1454	1-247-703-11	METAL	180	5%	1/4W
						R1455	1-247-703-11	METAL	180	5%	1/4W
						R1456	1-249-405-11	CARBON	100	5%	1/4W
						R1501	1-249-433-11	CARBON	22K	5%	1/4W
						R1502	1-249-434-11	CARBON	27K	5%	1/4W
						R1503	1-247-895-00	CARBON	470K	5%	1/4W
						R1504	1-249-435-11	CARBON	33K	5%	1/4W
						R1505	1-249-433-11	CARBON	22K	5%	1/4W
IC1401	8-752-032-27	IC CXA1114P									

J1**J2****H3****H4****Ks**

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R1506	1-247-895-00	CARBON	470K 5% 1/4W				
R1509	1-247-887-00	CARBON	220K 5% 1/4W				
R1510	1-249-426-11	CARBON	5.6K 5% 1/4W				
R1511	1-249-417-11	CARBON	1K 5% 1/4W				
R1512	1-249-429-11	CARBON	10K 5% 1/4W				
R1513	1-249-438-11	CARBON	56K 5% 1/4W				
R1514	1-249-417-11	CARBON	1K 5% 1/4W				
R1515	1-247-899-11	CARBON	680K 5% 1/4W				
R1516	1-249-432-11	CARBON	18K 5% 1/4W				
R1517	1-249-410-11	CARBON	270 5% 1/4W				
R1518	1-249-429-11	CARBON	10K 5% 1/4W				
R1519	1-247-883-00	CARBON	150K 5% 1/4W				
R1520	1-247-895-00	CARBON	470K 5% 1/4W				
R1521	1-249-425-11	CARBON	4.7K 5% 1/4W				
R1556	1-249-426-11	CARBON	5.6K 5% 1/4W				
<VARIABLE RESISTOR>							
RV1501	1-238-023-11	RES, ADJ, CARBON	470K				
RV1502	1-228-994-00	RES, ADJ, CARBON	10K				
RV1503	1-238-017-11	RES, ADJ, CARBON	22K				
RV1504	1-238-012-11	RES, ADJ, CARBON	1K				
RV1505	1-238-023-11	RES, ADJ, CARBON	470K				
RV1506	1-238-017-11	RES, ADJ, CARBON	22K				
RV1507	1-238-009-11	RES, ADJ, CARBON	220				
RV1508	1-238-016-11	RES, ADJ, CARBON	10K				
RV1509	1-228-999-00	RES, ADJ, CARBON	470K				

*1-629-783-21 J2 BOARD							

<CAPACITOR>							
C1401	1-126-105-11	ELECT	1000MF	20%	35V		
C1402	1-126-105-11	ELECT	1000MF	20%	35V		
<CONNECTOR>							
CNJ23	*1-564-893-11	PLUG, CONNECTOR	4P				
CNJ242	*1-564-893-11	PLUG, CONNECTOR	4P				
<JACK>							
J1401	1-507-806-00	JACK					
<RESISTOR>							
R1401	1-247-708-11	CARBON	470 5% 1/4W				
R1402	1-247-708-11	CARBON	470 5% 1/4W				

*1-629-785-21 H3 BOARD							

<CONNECTOR>							
CNH302	*1-564-898-11	PLUG, CONNECTOR	9P				
CNH303	*1-564-892-41	PLUG, CONNECTOR	3P				
<DIODE>							
D1405	8-719-812-41	DIODE TLR124					
	*4-348-208-00	HOLDER, LED; D1405					
<CAPACITOR>							
C202	1-124-902-00	ELECT	0.47MF	20%	50V		
C203	1-124-477-11	ELECT	47MF	20%	16V		
C204	1-124-902-00	ELECT	0.47MF	20%	50V		
C205	1-124-927-11	ELECT	4.7MF	20%	50V		
C206	1-124-477-11	ELECT	47MF	20%	16V		
C207	1-124-927-11	ELECT	4.7MF	20%	50V		
C213	1-126-233-11	ELECT	22MF	20%	50V		
C214	1-106-363-00	MYLAR	0.0068MF	10%	400V		
C217	1-106-363-00	MYLAR	0.0068MF	10%	400V		
C218	1-106-375-12	MYLAR	0.022MF	10%	250V		
C219	1-106-375-12	MYLAR	0.022MF	10%	250V		
C220	1-108-620-11	MYLAR	0.0033MF	10%	100V		
C221	1-108-620-11	MYLAR	0.0033MF	10%	100V		
C222	1-106-375-12	MYLAR	0.022MF	10%	250V		

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK				
C223	1-106-375-12	MYLAR	0.022MF	10%	250V	R224	1-249-413-11	CARBON	470	5%	1/4W
C224	1-106-367-00	MYLAR	0.01MF	10%	400V	R225	1-249-417-11	CARBON	1K	5%	1/4W
C225	1-136-173-00	FILM	0.47MF	5%	50V	R226	1-249-417-11	CARBON	1K	5%	1/4W
C226	1-136-173-00	FILM	0.47MF	5%	50V	R227	1-249-417-11	CARBON	1K	5%	1/4W
C227	1-106-375-12	MYLAR	0.022MF	10%	250V	R228	1-249-417-11	CARBON	1K	5%	1/4W
C228	1-106-379-12	MYLAR	0.033MF	10%	250V	R229	1-249-441-11	CARBON	100K	5%	1/4W
C229	1-106-371-00	MYLAR	0.015MF	10%	400V	R230	1-249-441-11	CARBON	100K	5%	1/4W
C230	1-106-371-00	MYLAR	0.015MF	10%	400V	R231	1-249-437-11	CARBON	47K	5%	1/4W
C231	1-124-902-00	ELECT	0.47MF	20%	50V	R232	1-249-437-11	CARBON	47K	5%	1/4W
C232	1-123-875-11	ELECT	10MF	20%	50V	*****					
C233	1-102-114-00	CERAMIC	470PF	10%	50V	*****					
C234	1-102-114-00	CERAMIC	470PF	10%	50V	*****					
C235	1-102-114-00	CERAMIC	470PF	10%	50V	*****					
C236	1-102-114-00	CERAMIC	470PF	10%	50V	*****					
C237	1-124-902-00	ELECT	0.47MF	20%	50V	*****					
C238	1-102-978-00	CERAMIC	220PF	5%	50V	▲.1-451-295-31	DEFLECTION YOKE (Y21PFA2)				
C239	1-126-103-11	ELECT	470MF	20%	16V	1-452-032-00	MAGNET, DISK; 10MM ϕ				

